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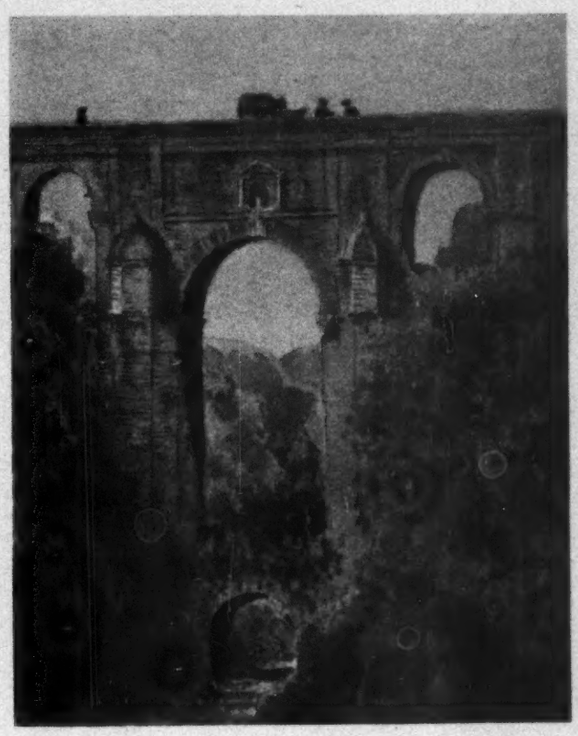


Bridge at Ronda, Spain.

From a water-colour sketch by Mr. J. HATCHARD-SMITH, F.R.I.B.A.

MEETINGS

FRIDAY, *November* 20.

Town Planning Institute. Presidential Address by Dr. R. C. Maxwell. 6 p.m.

London Society. Discussion with the Under Forty Club on "New Homes for Old." 5 p.m.

SATURDAY, *November* 21.

Architectural Association. Mr. J. Murray Easton on "Places for Recreation." 3 p.m.

Royal Sanitary Institute. Visit to new Abattoir at Liverpool. 2.30 p.m.

MONDAY, *November* 23.

Architectural Association. Mr. Clough Williams-Ellis on "Russia." 7 p.m.

Institution of Electrical Engineers. Discussion on "The Electrical Heating of Buildings." 7 p.m.

MONDAY-FRIDAY, *November* 23-*December* 18.

Architectural Association. Exhibition of Photographs and Drawings of Russia's New Buildings.

TUESDAY, *November* 24.

Institution of Electrical Engineers (Scottish Centre). Annual Dinner. At the Grosvenor Restaurant, Gordon-street, Glasgow. 7 p.m.

WEDNESDAY, *November* 25.

Incorporated Association of Architects and Surveyors. Mr. L. Maddock on "Town and Country Planning Bill." 7 p.m.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "French Renaissance (1450-1900)." 6 p.m.

University College Lectures. Miss E. Jeffries Davis on "Contemporary Descriptions of London, *circa* 1171-1831." 5.30 p.m.

THURSDAY, *November* 26.

Institution of Structural Engineers. Mr. W. T. Creswell on "The Employment of Structural Engineers as Specialists." 6.30 p.m.

Society of Antiquaries. Dr. Tancred Borenius on "A Destroyed Cycle of Wall Paintings in a Church in Wiltshire." 8.30 p.m.

FRIDAY, *November* 27.

Institution of Structural Engineers (Midland Counties Branch). Mr. H. Jackson on "Modern Research on the Nature of Materials of Construction." At Birmingham. 6.30 p.m.

Oxford Building Trades Employers' Association and the Oxford Society of Architects. Mr. Sydney Tatchell on "The 1931 Form and Conditions of Contract." At the Cadena Café, Oxford. 7 p.m.

FRIDAY-SATURDAY, *November* 27 *and* 28.

Royal Sanitary Institute. Friday: Discussion on "Regional Smoke Abatement." At the Town Hall, Sheffield. 5.30 p.m. Saturday: Visit to the Sheffield Sewage Disposal Works. 10 a.m.

FRIDAY-MONDAY, *November* 27-30.

National Housing and Town Planning Council. Conference at Blackpool.

SATURDAY, *November* 28.

Scientific Society of the Royal Technical College. Mr. P. B. H. Brown on "Mechanical Refrigeration." At Glasgow. 7.30 p.m.

MONDAY, *November* 30.

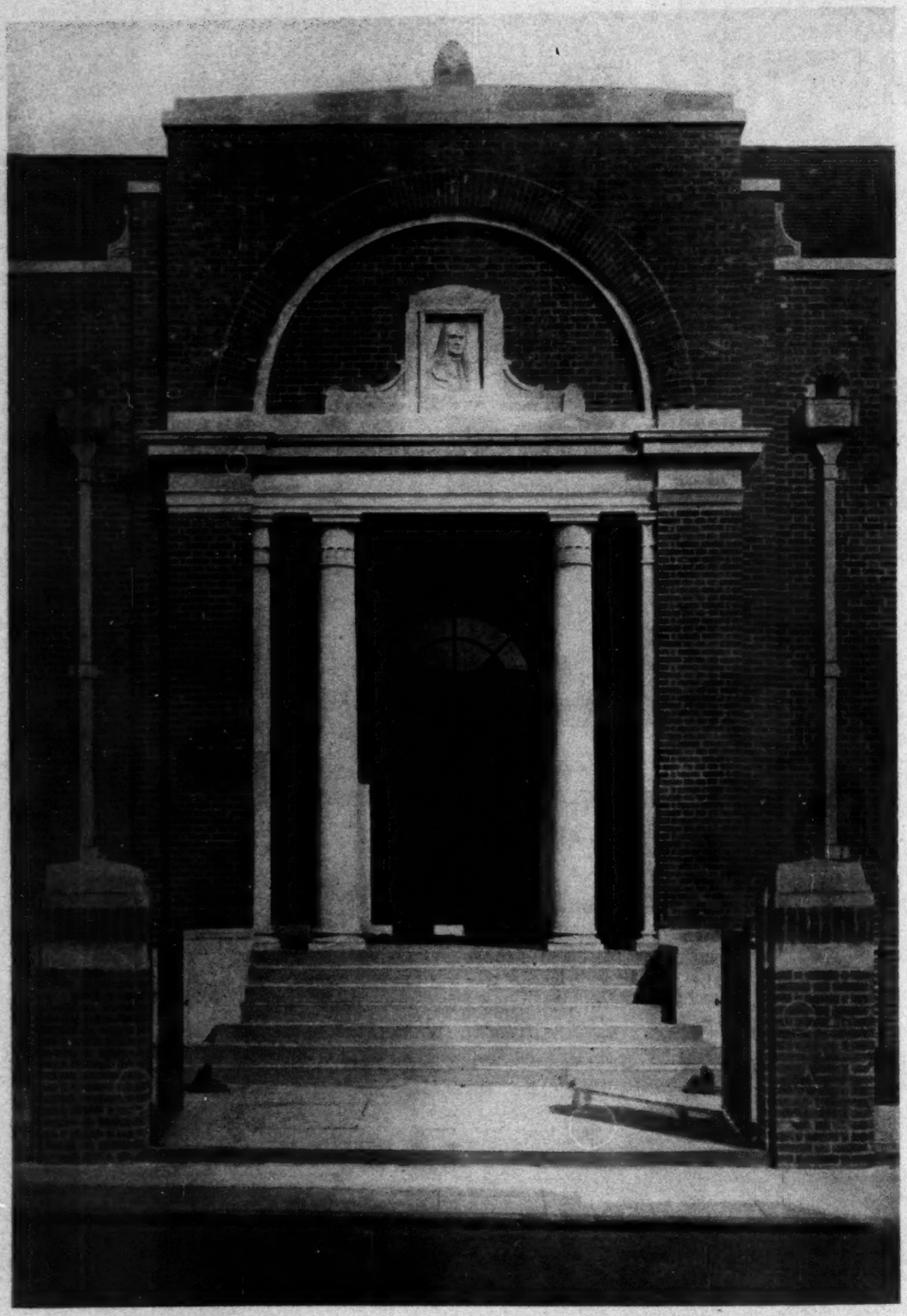
Royal Institute of British Architects. Mr. Howard Robertson on "Street Architecture." Presentation of the London Architecture Medal, 1930, to Mr. A. J. Davis, F.R.I.B.A. 8 p.m.

WEDNESDAY, *December* 2.

Royal Society of Arts. Mr. D. Alan Stevenson on "The Development of Lighthouses." 8 p.m.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "French Renaissance (1450-1900)." 6 p.m.

Institution of Heating and Ventilating Engineers. Mr. A. H. Barker on "The Principles of Calculation of Low-temperature Radiant Heating." 6.45 p.m.



New Offices, Cradley Heath, Staffs : Detail of Entrance.

MESSRS. CHERRINGTON AND STAINTON, FF.R.I.B.A., Architects.

A CRITIC OF ARCHITECTS

IN the higher ranks of journalism there is often a narrow line of division between the artist and the journalist; for many of the writings produced for our daily or weekly amusement will remain for long as literary monuments to our times. If there is, indeed, any difference at all between the talented journalist who writes to amuse as well as to instruct and the artist pure and simple who writes only to instruct and express ideas, it may be that, whereas the artist aims to put down the last word upon paper, as near to the truth as he can get, the journalist more often than not aims deliberately to turn up the end of his thoughts into the query which promotes interest and discussion.

The art of journalism has arisen so far above the level where its very name was a reproach, that we shall not expect Mr. St. John Ervine to resent our discussing him simply as a journalist and critic, ignoring his work as playwright and author. We associate his name chiefly with a great Sunday contemporary in which appeared recently an article under his name, entitled: "The Architect and the Theatre." In those pages he entertains us week after week with his interesting comments upon modern drama and stage-craft, carrying us with him from peak to peak of imagination in a course as direct as it has been bewildering at the moment. He has made us laugh and travel with him, and this is surely journalism at its very best. Very often he has laughed at us, but in so good natured a way that we can never resent it. He will understand, then, that though we feel impelled to take up his challenge, and in doing so to fall into somewhat serious vein, it is with the reverse of offended dignity that we criticise, knowing full well that in "pulling the architect's leg," he wishes him all the good in the world. The sum and substance of his challenge is that the architect is more concerned with the abstract than with the practical result. He complains that whereas the motor car of to-day is better and cheaper than it was in 1911, the house of to-day is no better, that the theatre of to-day is no better as an auditorium than the old Haymarket, for example. He even quotes the case of his own flat, which included a large south window to the larder out of respect to outer appearances; and so forth.

We suggest that our critic is just as superficial in this criticism as he must know himself to be, and that the falling short of perfection which he notes in architectural practice is rather less than typical of all other branches of human activity, not excepting the motor car. We know of cases where the whole output of a car model has developed a structural defect which has rendered that model fit only for the scrap heap. We have for years sought the type of popular car which can be converted without annoying effort from the closed winter type to the fully opening summer type giving uninterrupted view of sky and landscape. We have sought the car which will still be a car before the bloom of a new house has worn off. Mr. Ervine has probably sought the same things, but still has a good word to say for the motor industry. Cannot he spare a bouquet or two for the poor architect?

We know there are many things in the architectural world that have stood still or slipped back. But we are surprised to be told that these are in the direction of practical deficiencies. There is no modern domestic house æsthetically in advance of the best Elizabethan example; but nearly every housing scheme shows an advance in construction. From the ground floor up to two or three feet above it, nearly every Elizabethan house you can find shows dampness, often to the destruction of priceless panelling. If the same thing is noticeable in a housing scheme, the builder is "in for it"; for the defect is anticipated and provided against. In other words, we invented the damp-course, and not so many years ago. Nearly every Elizabethan house, however thick its walls, shows damp through on the inside of the south-west fronts at least; so do some modern housing schemes; but we at least know the cause and the measures necessary to obviate the defect. We have, in fact, and again not many years ago, invented the cavity wall, with certain necessary precautions around window and door openings. And we can build a tight and dry wall with only 9 in. thickness of substance, where the Elizabethan failed with 18 in. of substance.

Within very recent years vast sums of money have been spent on certain cathedrals which have developed defects against which the original builders had not provided. To-day these structures are safe and sound, largely as a result of advances in structural science as wonderful as anything the motor industry can boast. Thirty years ago the Tower Bridge was a marvel. To-day there are many more wonderful bridges of the type in existence. These are simple and self-evident discoveries now we know about them, but they are no more so than many of the advances in internal combustion engine design.

But our critic is all the time leading up to the question of acoustics; for he has been annoyed about a play which he has been unable to hear properly. We have every sympathy with him and agree that no theatre, however beautiful to the eye, is a good theatre unless it is also the perfect instrument for sound. But he will be the first to admit that this, with heating and ventilating and electric lighting, are complex and specialist subjects the details of which can hardly be contained within the compass of one brain. But for all that there are architect specialists who have made a deep study of the subject of acoustics and who have been responsible for much good work both in correcting imperfect auditoria, and in producing new and satisfactory ones, while no efficient architect would go far in the design of a theatre before seeking the advice of an acoustic expert; moreover, the elements of acoustics have been taught for some years to our students in some of our schools of architecture, and from this a future generation will profit.

Having said so much, we would suggest that there are other factors than the solving of a theoretical problem to be considered. No architect could make an orator of a shoddy speaker, and we have attended many plays where the actors —many of them with big names—have exhibited a degree of inefficiency in this one important item of their craft which would land the architect in the law courts if he showed equal inefficiency in any branch of his work. We know our critic does not mean to be taken literally, nor do we so take him. We intervene only to correct an impression with which the stupid or ignorant may go away. For architects have to include even the stupid and ignorant among their clients in these hard times.

NOTES

Mr. Goodhart Rendel's Paper.

Mr. Goodhart-Rendel's paper at the R.I.B.A. on Monday evening afforded much stimulus and entertainment to a crowded audience. Those who were familiar with the lecturer's originality of outlook and gift of literary expression probably expected to be entertained and amused, but it is doubtful whether they were prepared for the brilliant address to which they listened. Subtle in thought, witty in expression and delivered with great vocal effectiveness, it held the attention of the audience completely; indeed, reduced them almost to a state of muteness, for few responded to the President's invitation to take part in the discussion. The fact was that the lecturer had caught his audience unawares. From the title of the paper they had probably expected a critical survey of the works of the school of Messieurs Le Corbusier and Mallet-Stevens, but instead were treated to a subtly allusive commentary on architecture in general. If there had been time to assimilate it all the discussion would probably have been a more lively one.

Collectivism and Individualism.

It would perhaps be presumptuous to endeavour to discover what was passing through the mind of Mr. Goodhart-Rendel. We are sure that his words only slightly conveyed the meaning of his inner thoughts. He did not mean that whilst he saw the tendencies of this machine-ridden age he necessarily thought very highly of it, or that because he looked upon the engineer as a more important asset in the world than the architect he dared to deny that beauty was the one supreme good of life, or that the Parthenon, with its mechanical perfection, could ever compete in charm with the tone and texture of a fine old Gothic church. His vision of a factory of architects, his comparison between collectivism and individualism, his vision of a falling faith, and a cynical doubt of the value and power of art may not be inspiring, but they are doubtless intended to wake us up to the realities of our time, to show the impossibility of all architects being artists, and to reconcile us a little more to the inevitability of the humdrum of practicability as an every day vision for most of us. In all his many words we should have liked to have more setting forth the higher ideals of our life and work from one who is himself so keenly sensitive to the artistic impulses.

Hope for Modern Architecture.

As the lecturer himself admits, it is a grey prospect which he offers us. As thus: "The standardisation that I conceive to be the possible future state of European architecture would be one in which there would be neither copyists nor anyone to be copied. As in the ranks of the army, individuality would be eliminated in order to obtain the highest possible average efficiency."

Mechanical Perfection.

How far the following will help the aspiration of the student, we cannot say: "The artist-architect to be worthy of his opportunities, and also, I think, to save his skin, must make the inventive use of the machine his absorbing study—he must get unprecedented accuracies and perfection from it, he must devise for its production patterns as inhuman and exciting as the engine turning on his watch. I always think the Parthenon ought to have been built by an ideal machine." This is rightly described as a materialistic age, but we may surely hope that it will not entirely quench the joy of the artist in that spirit and life which can alone be created by the loving work of the great craftsman.

The Aim of the Architect.

The value of lectures like that by Mr. Goodhart-Rendel is that they stir our thoughts on the essentials of life. He had a great deal to say about charm, and we know that none could be more sensitive than he to the value of charm in architecture. He knows that it is indefinable, and that those who are capable of creating it are a very small minority amongst us: Therefore he seems, as a sort of crusade of despair, to turn the thoughts of architects towards the material side of things, to suggest as there are so few artists amongst us—not enough to go round, he says—that our profession shall find some sort of salvation in concentrating on the material side of things, as to which so many of us may so readily become proficient. This seems to be the message of his lecture, and it may be a wise one. Instead of the pretence that we can be taught the heaven-sent quality of great art, we should be wise to accept our limitations. Our best modern architects have done something towards the creation of charm, but they probably have no illusions as to the folly of those who would play the part of the poseur. He is right to warn the student against the dangers of a pose of individualism, and if we point to collectivism as a plan for safety first, this is what should appeal to the present times. But to those who have the aspiration and the dream, and want to carry on the age-long desire for the creation of beauty in form and colour, the aim for personal well-being and for mere worldly success will make little or no appeal.

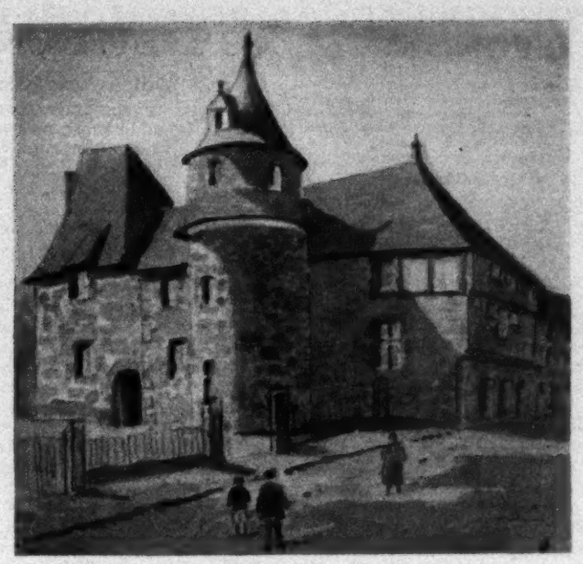
Builders' Benevolent Dinner.

At the annual dinner of the Builders' Benevolent Institution, reported on another page, the President, Mr. C. J. Trollope, made reference in his speech to the significant fact that, on the Committee's inquiry into the circumstances of one of the many appeals made during the last year, it was discovered that the claimant was a member of the family of Thomas Cousins, the founder of the Institution. This well illustrates the precarious nature of building to-day. When it is remembered that the Newsvendors' Institution this year collected nearly £18,000, it seems a little peculiar that the much larger building industry

Sebenik, Adriatic.

From a Water-colour Sketch by Mr. J. Hatchard-Smith, F.R.I.B.A.

(*See page* 822.)



Lannion, Brittany.

From a Water-colour Sketch by Mr. J. Hatchard-Smith, F.R.I.B.A.

has never collected more than two thousand pounds in any one year, and this in spite of the efforts of an active committee. In these present times, demands upon the charity are hardly likely to decrease, and we would emphasise the President's appeal to London builders to make a habit of giving a small but annual subscription. Another fact of interest disclosed on Tuesday night was that the President is the fourth member of the firm of Trollope and Colls to occupy the chair—a record of which that firm may justly be proud.

Architectural work at the London University. The students' work at the London University Architectural School shows much that is encouraging. The first year's work is surprisingly good. Special interest attaches to the drawings and sketches sent in for the prizes offered by the *Builder* for measured drawing. A subject of quite notable interest is the Byzantine Church of the Virgin Panagia tes Portas by John Hilton. This delightful example of very interesting old work has not been drawn before we believe, and it is excellently set forth in crisply drawn elevation, plans and section. This student sends a little packet of capital sketches. He has also a delicate drawing of stalls at Fressingfield, Suffolk, and some good studies of coloured decoration. This collection of work deservedly receives a award. Another striking contribution is the outline study of the Cathedral of St. Cecile, Albi, with a detailed study of the porch, by A. G. Wise. The winner of the first prize is P. B. Dunham, who has some good colour studies of the Ranworth Screen, a capital pencil view of Orford Castle and St. Mary's Church Porch, South Walsham. He also has other drawings of screens. The drawings of the charming old church of Skelton, Bedfordshire, and other subjects, by R. H. C. Finch, are highly commended.

British Empire Mark of Origin. The British Empire Mark of Origin Association is working to bring about the introduction of a voluntary and unregistered "Mark of Origin," available for producers and manufacturers within the British Empire, to place upon their products. This mark, denoting origin as distinct from quality, and so designed as to include the name of the Empire country therein, would, it is claimed, in time become familiar to the purchasing public throughout the Empire. By this means the tendency to confusion, which is so often heard of, as to whether goods on sale in the United Kingdom are or are not of Empire production would be once and for all time removed. This proposed "Empire Origin Mark," besides stimulating the sale of British Empire goods within the Empire itself, should also prove a valuable advertisement to such goods on sale in foreign countries.

Preservation of Footpaths. The last current report of the Commons, Open Spaces and Footpaths Preservation Society makes it clear that the work of the Society is of very great value, and it is to be hoped that the Town and Country Planning Bill, when it becomes law, will not interfere in any way with the good work of the Society. It is certainly of much importance that local authorities which are planning their districts should give full weight to this movement. We note that the Sheffield and District Joint Regional Planning Committee says that care should be taken to preserve and link up existing footpaths in the agricultural and rural belts, so that it should be possible to walk from village to village and town to town by rural lanes and footpaths, which should not be converted into motor roads.

Vitre, Brittany.

From a Water-colour Sketch by Mr. J. Hatchard-Smith, F.R.I.B.A.

GENERAL NEWS

The Mansion House.

At a recent meeting of the City Corporation at the Guildhall, E.C., Mr. Walter Fortescue, J.P., moved that "on the completion of the work of reconstruction and redecoration at the Mansion House, this Court desires to express to Mr. Henry Edmund Mathews, O.B.E., its cordial thanks for his able services in connection therewith, as chairman of the General Purposes Committee for the past four years; and to record its appreciation of his valuable advice and his untiring attention of details, both during the preparation of the scheme and the carrying out of the work, which have so materially assisted towards bringing the matter to a successful conclusion."

Chipping Campden Houses.

Campden Rural District Council have (according to *The Times*) been given sanction to build in Station-road, Chipping Campden, the houses about which there has been considerable controversy. A deputation visited the Ministry of Health recently to discuss the matter. In consequence of a proposal of the council to build houses in red brick Mr. F. L. Griggs, on behalf of the Campden Society, offered to defray the difference between the cost of ordinary brick houses and brick houses specially rough cast and with stone quoins and facings. The offer was accepted, but the Ministry raised an objection to the size of the houses, alleging that they were too large. Some interesting correspondence on the relative costs of brick and stone construction in the Cotswolds has recently appeared in *The Builder*.

Sketches of Architecture.

Mr. J. Hatchard-Smith, F.R.I.B.A., supplies the following notes on his sketches which we reproduce this week :—

Vitre, Brittany.—A most interesting town, with old walls and an 11th century castle and many picturesque houses.

Lannion, Brittany.—There are very many old half-timber and stone houses and a most interesting church. The river runs through the town and adds very much to its charm.

Sebenik, Adriatic.—The view from the quay is very fascinating, with the cathedral and islands.

Ronda, Spain.—A very attractive town with many interesting streets and buildings. There is a most extraordinary formation in the shape of an amphitheatre covering many acres and partly surrounded by rocks 300 feet high, with a stream meandering through. The gorge is crossed by a bridge 100 ft. wide in a single span, from which there are delightful views.

National Association of Water Users.

We have received a copy of the annual report of the National Association of Water Users, Limited, setting forth the Association's activities from October 1, 1930, to September 30, 1931. These relate to new Water Bills and Provisional Orders, water charges, communication pipes, underground water, standard specifications, model specification, Ministry of Health, the Advisory Council of the Building Industry, technical papers, water pipes and fittings, by-laws and regulations, propaganda, etc. It is stated that a large increase in the number of postal and telephonic communications with water authorities and members reveals that the activities of the council are greater than ever since the inception of the Association. The secretary has given a considerable amount of technical advice to members. Communications asking for advice are welcome. The regulations and by-laws of some hundreds of water authorities are in the Association's library. Other documents and data are also accumulating. Further particulars of the Association's activities and forms of application for membership may be obtained from the secretary, Mr. Walter Scott, M.R.S.I., etc., 46, Cannon-street, London, E.C.4.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

The Modernist.

SIR,—It would be difficult to find a more convincing definition of the proper attitude of a designer toward this problem than that given by the late Professor Lethaby in his "Form in Civilisation."

"True originality is to be found by those who, standing on the limits of the sphere of the known, reach out naturally to some apprehension and understanding of what is beyond; it is the next step in an orderly development."

No great period of architecture or art ever confined itself to mere structural necessities or utilitarian demands.

WILLIAM DAVIDSON.

Economy and Safety.

SIR,—Your readers may be interested to know that there has been a considerable and welcome reduction in the number of persons killed in street accidents in this country during the first nine months of this year as compared with the same period last year. Road-users are definitely becoming more careful, and we are hopeful that the present improvement will be maintained. There are many ways in which road-users can help to achieve this ideal, and the following is one.

Economy is essential in these times, but not at the expense of safety. Late autumn brings fogs and highways slippery with fallen leaves, demanding extra caution on the part of all road-users. It is false economy to run on tyres which are worn beyond the margin of safety. To the majority, an appeal on the grounds of public safety is enough, but those who ignore it should be reminded that it is now an offence, under the Road Traffic Act, to use defective tyres, and cases have recently occurred where owners and drivers have been fined for so doing.

J. A. A. PICKARD,
General Secretary,
The National "Safety First" Association (Inc.).

Estimating.

SIR,—The letter from Messrs. C. H. Leeland & Co. in your last issue exactly confirms the statements made in my article of November 6. But the writer overlooks the word "competitive" as the qualification to estimates that demand something better than a few rough notes by way of specification. In the absence of a very carefully drawn specification the competitive estimates received are seldom comparative.

The remainder of the letter deals with matters that require attention from someone other than myself. The facts disclosed point to fees being accepted for estate management at such cut figures that efficiency may become for practical purposes impossible.

J. R. TAYLOR.

"Designing the Garden."

SIR,—I read with interest Mr. Jellicoe's lecture on this subject, reported in your last issue, and should like to disagree with him on one point.

He states definitely that "flowers are designed for the garden, not gardens for the flowers." This strikes me, as one who is interested in garden designing and constructing, together with the cultivation of flowers, as being not quite true. It is not possible to have a garden without flowers, or at least some sort of flora, whereas one can easily have flowers without a garden; again, whilst I agree that design is essential in the garden, I do think that flowers make the garden what it is.

HAROLD G. WHITELEGG.

COMPETITION NEWS

£1,000 All-British House Competition.

In order to encourage the employment of all-British building materials and to emphasise the advantages of commissioning a qualified architect not only to design but to supervise the erection of a house, the Council of the Incorporated Association of Architects and Surveyors, at its meeting on November 14, which was attended by the President, Sir Edwin Lutyens, R.A., decided to promote a competition, with cash prizes of 50, 20 and 10 guineas, for the design of a dwelling-house entirely constructed of British materials and not to exceed £1,000 in cost.

The house must be "detached," and accommodation must include two sitting-rooms, four bedrooms (three of good size and one small); bathroom with heated linen-cupboard, inside and outside water-closets; kitchen (with or without scullery); and garage. The sitting-rooms and at least three bedrooms must have open fireplaces. Other necessities are reasonable cupboard accommodation, wiring for electric light and power; hot and cold water services for bath, lavatory-basins and sink; and an independent boiler (or gas or electric heating apparatus) for hot-water supply is to be provided.

The whole cost is not to include the cost of site or architect's fees. Designs must conform with the provisions of the model by-laws issued by the Ministry of Health. The competition will remain open till September 1, 1932, in order to afford architects overseas plenty of time to compete.

Municipal Technical College, Southport.

We are officially informed that the competition for the proposed new Municipal Technical College, Southport, is at the moment in abeyance, and an announcement will be made when it is reopened.

University of London.

The following awards have been made for *The Builder* Prizes for measured drawings executed during the vacations of the session 1930-31, by Students of the London University. First prize: Mr. P. B. Dunham (£5); second prize: Mr. J. R. Hilton (£2 10s.) and A. G. Wise (£2 10s.), equal; highly commended: Mr. R. H. C. Finch.

Tuberculosis Hospital, Hayes Farm, Sully, near Cardiff.

The assessors in this competition (Mr. C Ernest Elcock, F.R.I.B.A., and Mr. T. Alwyn Lloyd, F.R.I.B.A.) have made their award as follows :—

1st (No. 37, premium £400): Messrs. William A. Pite, Son and Fairweather, FF.R.I.B.A., 12, Carteret-street, S.W.1.

2nd (No. 11, premium £300): Messrs. H. V. Lanchester and T. A. Lodge, FF.R.I.B.A., in association with Mr. Ernest E. Davis, A.R.I.B.A.), 19, Bedford-square, London, W.C.1.

3rd (No. 46, premium £175): Messrs. Stanley Hall and Easton and Robertson, FF.R.I.B.A., 54, Bedford-square, W.C.1.

4th (No. 31, premium £100): Messrs. Todd and Thompson, 29, Orchard-street, Bristol.

The assessors, in their report, state that "46 sets of drawings and reports were submitted by 45 competitors, one set being evidently an alternative design. These 46 sets comprise 229 sheets of drawings, which have all been scrutinised by us. The estimates of cost vary considerably, from £122,462 to £229,014, for the 250 beds scheme. . . . The Association is to be congratulated on the general excellence of the schemes submitted, all of which disclose sincere attempts to solve the problems set and some of these are very ingenious solutions."

Newcastle-on-Tyne Town Hall.

The City Council is recommended to invite sketch plans and a detailed scheme in connection with the proposed alteration of the Town Hall, which is estimated to cost £75,000.

WELSH MEMORIAL TUBERCULOSIS HOSPITAL COMPETITION

By W. S. PURCHON.

THE King Edward VII. Welsh National Memorial Association, having acquired an excellent site of about 90 acres at Hayes Farm, Sully, near Cardiff, propose to erect a tuberculosis hospital for 250 beds, with a possible extension to 300, on the south-western quarter of the site, and to reserve the remainder for a surgical hospital, a village settlement for convalescents, and a summer camp. The site is protected on the west and north by belts of trees, and has a southern aspect facing the Bristol Channel, while the contours fit in well with the use of that aspect.

The assessors appointed by the Association were Messrs. C. Ernest Elcock, F.R.I.B.A., of London, and T. Alwyn Lloyd, F.R.I.B.A., of Cardiff. Forty-six designs were sent in by forty-five firms, Messrs. W. and T. R. Milburn, of Sunderland, presenting alternative schemes.

The Association deals with the prevention, treatment, and abolition of tuberculosis in the whole of the Principality, and it was hoped that in this new scheme a lead would be given to the country in tuberculosis hospital design. The Association is to be congratulated on the excellence of the design placed first, and on the general high level of the other designs submitted. It may, however, be pointed out that, while some of the schemes would make excellent sanatoria, they did not provide the additional shelter required in a tuberculosis hospital.

The design submitted by Messrs. W. A. Pite, Son and Fairweather, FF.R.I.B.A., has been placed first and awarded the premium of £400, and this firm has been appointed to carry out the scheme. This design is clearly of outstanding merit. Its lay-out is very compact, and the normal covered ways have been eliminated, a central corridor from north to south, bifurcating to east and west, giving access to the various blocks. The ward blocks are in a double V formation, facing the sea and with a south-eastern aspect, and are arranged on the sun-trap plan with the outside walls of the four-bed wards, mainly of glass, in the form of large projecting bays. This plan appears to combine the maximum advantages of sun and shelter.

The special departments block, containing the operating theatre, X-ray rooms, etc., are placed behind the ward blocks, the kitchen and dining halls behind the special departments, and the nurses' and maids' homes, main entrance, etc., are still farther to the north. The laundry, power-house, and workshops are placed at the north-east of the site, screened by trees, and the medical superintendent's house is to the north-west. The planning of the individual units, kitchens (where full provision has been made for the "cycle of operations" referred to in the conditions), dining halls, and the operating theatre and X-ray suites in the special departments block is admirable, while every advantage is taken of the possibility of the site in the lay-out of the grounds for ambulent patients, for outdoor recreation, and for exercising in sheltered situations. Most of the ward blocks are three stories high, but there is an excellent scheme of lifts and other means of access.

The elevational treatment is excellent, the administration blocks being somewhat more traditional in style than the ward blocks, which are eminently "functional" in design; the difficulties presented by large windows and angular bays have been overcome very skilfully

The architects estimate that this scheme can be carried out for £156,969, while, if the extension to 300 beds is completed, the total cost would be £165,188, or £550 per bed. Several cheaper schemes were submitted, but it is considered that, owing to its skilful and compact planning, this one would be the most economical in administration.

The second premium of £300 is awarded to Messrs. Lanchester and Lodge, FF.R.I.B.A., in association with Mr. Ernest E. Davis, A.R.I.B.A. In their scheme three separate ward blocks are provided, in each of which a range of four-bed wards faces south-east, with a wing projecting at right angles at each extremity. At the south-east end of each of these wings is an eight-bed ward, while the single-bed wards are disposed on the south-west sides of the wings. These single-bed wards are thus not placed so well as might be desired for aspect and prospect, and the wings in which they are placed would inevitably keep a certain amount of sunshine from reaching the four-bed wards. The central ward block is projected forward, and while the other two are of two stories, this is a one-story building in the present scheme, the future extension being arranged on its upper floor. Behind this central ward block and between the other two is the special departments block, with X-ray department, etc., on the ground floor and the operation suite over, while behind this, again, come the dining rooms with the kitchen above. Immediately behind this restaurant block is placed the administration department, to the north-west of which is an entrance court with the nurses' home in four stories on the north-east side and the maids' home in three stories on the north-west. The elevations, with their extensive window spaces and concrete balconies, are very effective. The cost of the scheme for 250 beds is estimated at £142,837 18s., or £571 4s. per bed.

The premium of £175 is awarded to the design submitted by Messrs. Stanley Hall, Easton and Robertson, FF.R.I.B.A. This scheme has on the northern part of the site a large square open court with blocks on each side; to the north-west the administration block, with the nurses' home to the south-west, the maids' home with dining-rooms and kitchens to the north-east, and the special blocks to the south-west. Further to the south-west are the patients' dining-rooms and recreation rooms, with a long wing bent slightly inward, at each end. These wings contain the wards, the single-bed wards being placed in the centre of the wings with the four-bed wards at each end of them, while two eight-bed wards are placed at right angles to each other at the extremities of each of these wings, giving a long, continuous building mainly facing south-east, and mainly three stories high. The placing of the single-bed wards in the centre of the wings appears to have been fully realised, and a private corridor provided, separated from the main corridor by obscure glazed screens. The elevations are treated in a simple and effective manner, but it may be noted that the large bays which belong principally to the recreation block are treated externally as part of the ward-block scheme. While this design is not so compact as that placed first, it undoubtedly reaches a particularly high standard. Its cost for 250 beds is estimated at £596 8s. per bed, or £511 14s. per bed for 300 beds.

The design awarded the premium of £100 is that submitted by Messrs. Todd and Thompson, of Bristol, in which all the wards, single-bed, four-bed and eight-bed, are arranged in what is probably the longest block submitted in the competition, occupying the full width of the site and having all the beds placed parallel to the south-east wall.

While most of the remaining forty-two designs contain points of interest well worthy of mention, it has only been found practicable in this article to deal with the following:—

Design No. 20, by Messrs. J. H. Morton and Sons, of South Shields, is one of the most economical designs submitted, the estimated cost working out at about £500 per bed. This economy appears to have been effected in part by making the only approach to certain of the upper wards in the form of balconies. The wards are arranged in three, almost straight, detached blocks, one advanced in front of the others, and each facing south-east. The maids' home faces north-west, and the nurses' home comes too close under the trees on the northern boundary.

Design No. 4, by Messrs. Collcutt and Hamp, F.R.I.B.A., is a very interesting scheme with the wards arranged on the inner sides of three V-shaped blocks, the axes of which point south-east. These blocks are connected at the angles.

Design No. 32, by Messrs. H. Jackson and R. Edmonds, of Birmingham, is a scheme which has many good points, and approximates somewhat to No. 4, but with disconnected blocks. It was unfortunately submitted without an estimate of cost.

Design No. 40, by Messrs. Fletcher and Griffiths, of Cardiff, is somewhat similar to No. 32, but with curved faces to some of the blocks and an extensive use of glazed verandahs.

Design No. 2, by Messrs. Johnson, Richards and Rees, of Merthyr, shows an ingenious scheme, in which the wards are arranged in three A-shaped blocks, the wards being on the outer faces of the sloping sides with a sanitary block on each of the connecting lines.

Design No. 41, by Messrs. Wylie, Wright and Wylie, of Glasgow, is a good example of the type in which the wards are disposed in three blocks, the central one projecting slightly, but all more or less in a line facing south-east.

Design No. 1, by Messrs. Forbes and Tate, of London, is another good example of the long straight set of ward blocks, in this case facing due south, and with the administrative building in the western part and the kitchen and laundry in the eastern part of the site to the rear.

Design No. 13, by Messrs. James and S. R. Pierce, with Mr. Wells Coates, shows an interesting scheme, with a special feature made of a portico in the centre of the ward blocks leading to a terrace overlooking the sea. This is one of the most interesting of the designs submitted from an elevational point of view, but curiously enough the central feature, to which reference has been made, does not add to the external effect of the scheme.

Design No. 14, by Mr. S. N. Cooke, F.R.I.B.A., of Birmingham, is one of the best of the schemes in which a large proportion of the wards are arranged in blocks running at right angles to the south-east aspect.

Design No. 44, by Mr. J. J. S. Naylor, of London, shows the ward blocks arranged on four sides of each of three hollow squares, each of which contains a garden court.

In such a competition as this, presentation is no doubt of less importance than in the case of buildings of more monumental character. It is noteworthy, however, that in the majority of cases the drawings reached a high standard of thoroughly sensible draughtsmanship. It may also be thought that little importance attaches to elevational treatment in such a building as a tuberculosis hospital. It is, however, in just such buildings that there is so much room for improvement, while perhaps buildings of this type present the greatest opportunities for rational development of design.

An Antiquary's Estate.

Mr. John Fullwood, F.R.S.A., R.B.A., F.S.A., of Twickenham, formerly of Wolverhampton and of Birmingham, for many years living at Newlyn, who died on September 6, aged 76, intestate, left estate of the gross value of £1,395, with net personalty £376.

MODERN EUROPEAN ARCHITECTURE

At a meeting of the R.I.B.A., held at 9, Conduit-street, W., on Monday evening last a paper on this subject was read by Mr. H. S. Goodhart-Rendel, F.R.I.B.A. The President, Dr. Raymond Unwin, occupied the chair.

The art of architecture, said the lecturer, was, he believed, the exercise of æsthetic choice in the design of a building. The engineer said that this or that would do the job. The architect said "*this*, because it looks right, not *that*, which doesn't." The engineer said, "I don't see the difference." The architect said, "No, you wouldn't." The engineer, perhaps, persisted that he didn't believe there was a difference. The architect must then say as politely as possible that if the engineer were an architect he would understand. If we reversed the situation, however, we should discover something that might upset our architectural complacency. Let us imagine the architect telling the engineer that this or that would look all right and the engineer replying that *this* would stand up and *that* would not. If the architect then said he didn't believe it would make any difference, the engineer could refer grimly to the relative value of his and of the architect's opinion in a trial for manslaughter. From which we must learn that, physically speaking, the engineer was more important to the world's welfare than the architect.

Was this, then, why there was so strong a tendency nowadays to forget architecture altogether, and to use its name for engineering; for ideal engineering perhaps, but still for engineering with all æsthetic science left out of it? Was it that we were becoming so material that we asked no greater pleasure from the contemplation of a building than from that of a machine? He thought not. He thought the utilitarian mood was a passing one, and one not at all surprising when one remembered how inutilitarian architecture had become before it set in. If an elegant but untrustworthy chair let one down with a bump, one could hardly be blamed if one preferred to sit only on packing-cases for a bit. It was nevertheless incorrect to describe packing-cases as chairs.

Things moved so fast nowadays that he believed "functionalist" architecture was already becoming out of date everywhere. Its theories survived, however, and one still heard people praising a building's physical efficiency with the belief that they were talking æsthetics. He should join no issue with them, since he was talking of architecture. He would, therefore, view physical efficiency as a root quality that only called for mention when æsthetic qualities had sprang from it.

To define the art of architecture began to define the subject of that lecture, but it did not go all the way. The word European could only mean what it said, but the word Modern could mean almost anything. He would take it as applying to that which was made to serve a present use; a definition for which he claimed no particular justification, but a great deal of convenience. It would exclude the Taj Mahal, but it need not exclude buildings (there could not, perhaps, be many), that, although dating from another age, were exactly what we might reasonably build now. They were not history-students that night but art-students, and he maintained strongly that no art-study ought ever to recognise a date. Works of art were ageless while they were unexcelled; when they had been excelled they became obsolete and should be thrown to the professors.

One further definition was necessary, and would plunge them into the middle of their subject. He had said what he thought the art of architecture to be, but the art of architecture was not the same thing as architecture, any more than the art of speaking was the same thing as speech. Architecture was the production of the architect, who might be an artist, but more often was not. If this sounded rude it was because people misused the term "artist" so ridiculously. Architecture was an art upon a different footing from that of cookery, of photography, or of acrobatics, and to maintain that a large proportion of the men that made an honourable living by providing the design of buildings and supervising their erection must be artists in the sense that painters and sculptors should be artists was to demand an impossibility. For one thing, the public would never stand it. Also artists did not grow on every tree, and there never could be enough to go round. There never had been; if one looked at the buildings of any good period one would see that the great bulk of them was the work of sound designers using other men's inventions in a sober, reasonable way.

The great bulk of the buildings of to-day was the work of doubtfully sound designers using other men's inventions in a way that was neither sober nor reasonable. Much of it was definitely flagitious and was supposed not to be the work of architects at all, a supposition that inquiry too often upset. Even if we could bring the perpetrators to book, he was not sure that architecture was simple enough any longer to be produced satisfactorily on the old system of a few leaders and a great many followers. For one thing, the followers refused in this individualistic age, to keep to heel, and did a good deal of damage on their independent excursions. The architectural profession needed reorganisation.

This reorganisation was bound to take place soon in Europe, and it might be that it was already under way. Signs were often hard to discern when one did not know in which direction they would be pointing. It was possible, even likely, that a cure for our ills might be found in the gradual amalgamation of small practices into businesses large enough to be run as associations of specialists. If one took a year's output of buildings in any country and divided it by the probable number of artist-architects at work there, he dare say that one would find the quotient no greater than what one man could do if he were designing all the time. One would then have to associate with him a man who was calculating stresses and strains all the time, and a man who was writing specifications all the time, and a man of pipes and wires, and a man to blandish employers, and a man for negotiation and law. One would call it a group or a company (he feared that in England there would be some who would call it a Guild), and as business grew one would provide each man with second and third strings in his department, and perhaps develop new departments. As business grew the question would arise as to whether or not the artist at the head could have second and third strings too.

Standardisation very nearly occurred in Europe during the eighteenth century. In England, in particular, the neo-Palladians established an architectural system that was almost foolproof. Without Palladio and his apostle Inigo Jones, however, it could never have been, and must therefore be regarded as a movement commanded by a leader and not as a spontaneous one. The standardisation that he conceived to be the possible future state of European architecture would be one in which there would be neither copyists not anybody to be copied. As in the ranks of an army, individuality would be eliminated in order to obtain the highest possible average efficiency. This was rather a grey prospect—much less inspiriting than the picture of all the designing being done by the best designers and all the rest of the architects' work being deputed to men less good at design. He thought, nevertheless, that it was more inspiriting than the long vista of muddle and waste that lay before us if we did not turn our backs upon our present disorderly individualism. In Europe to-day one would see designers of talent wasting their time serving party-wall notices; one would see important façades being designed by men who ought only to be allowed to test drains; one would see whimsical geniuses leading sedate disciples into the most dreadful mischief; one would see the sedate disciples utterly demoralised and plunging into dull and pointless escapades of their own.

It would be so natural to pick out a lot of buildings of one period and country, find their greatest common measure, if any, and present the result as modern French or German or Italian architecture; it would be so natural if he did that, that he would not blame them if they let him get away with it. He took it, however, that the only adequate excuse for talking any more about a subject that had been so very much described and discussed lately must be a serious attempt to get below the surface, and very near below that surface we found a bitter conflict between the forces of individualism and collectivism. In England one found the idiosyncratic buildings of Sir Giles Scott being built at the same time as the almost standardised building of the Office of Works; in France one found the Ecole des Beaux Arts trying to swallow and digest a good deal of rather peppery new food; in Italy one found clever and provoking modern decorators refusing to be crushed by the stereotyped grandeurs of the traditionalists; in Germany one found expressionism waging solemn war with functionalism to the probable amusement of some delightfully unrepentant experts in Baroque; in Spain he fancied that one did not find much, and in Denmark and Sweden one found some of the most personal and emotional and some also of the most impersonal and unemotional architecture in Europe. He had no idea what one found in most of the countries he had left unmentioned, but he imagined it would not be remarkable for homogeneity.

He did not like the word collectivism that he had opposed to the word individualism, but he could not find a better. What he meant by it was well exemplified in the design of most of that enormous output of post-war German architecture that had been illustrated in the architectural Press. Such architecture, which was not without merits, was the sort of thing that he believed anybody sufficiently intelligent and painstaking could be trained to do. What it owed to impulse it owed to the sort of disciplined impulse of which a mass was capable. He found it generally decent and reasonable and prosaically expressive of its purpose. He never could remember which architect did which building, but in collective work that was as it should be. If he lived in the midst of it he would soon become unconscious of it; and the architecture of individualism that surrounded us in London often made one think of unconsciousness as a boon. If he looked at it he would be bored, but then he should not look at it; except, of course, where it was trying to be impressive—one would notice that because everything would be so large. It would make much pleasanter surroundings for one's daily round than the collective architecture of America which was covered with dead bits of things that one was fond of when they were alive. But he did not know what more for it one could say.

He did not imagine that any conscious effort upon our part could determine whether we had this kind of thing for our future European architecture or we reformed but retained our individualism. He had said that the profession needed reorganisation, but he was not sanguine enough to think that the reorganisation could be brought about by Act of Parliament, or even by concerted action among architects. He fancied that the decision between collectivism and individualism would depend upon how the individualist met the advance of the machine—the machine that grew in power and cleverness every day, and that took more and more work from our hands and needed more and more control by our brains. The machine and the collectivist were excellent friends already—they were rather like each other, and fitted in with each other's ways.

When he considered the gallant stand made by handicraft enthusiasts he was reminded of an illustration in a book of his childhood, he thought one of the Erckmann-Chatrian

novels. A railway train was emerging from a tunnel, and arrayed in front of it were villagers with bill-hooks, hay-rakes and scythes determined to bar its passage. Now an adze had about as much chance against a machine-plane, a needle against a loom, a man's arm against a piston, as a bill-hook had against a railway train, so why not accept the situation? If our artist-architects continued to join forces with the bill-hook party, their doom was sealed. Craftsmanship (that irritating word) was the last ditch in which nineteenth-century sentimentality was dying, and dying much too slowly. In things that needed vigilance, or constant adaptation to circumstance, the man was better than the machine and always would be, and it was to these things that his labour should be directed. To set him to work with an obsolete tool at a simple operation that a machine could do in a twinkling, and for no reason except to ensure an irregular result—surely that was the worst kind of fiddling while Rome was burning. Of course, there were occasions when outside considerations demanded from us a re-use of past methods; we might be forced to tamper with old things that we would sooner leave alone, or there might be no machine handy. But the artist-architect, to be worthy of his opportunities, and also, he thought, to save his skin, must make the inventive use of the machine his absorbing study—he must get unprecedented accuracies and perfections from it, he must devise for its production patterns as inhuman and exciting as the engine-turning on his watch. He thought the Parthenon ought to have been built by an ideal machine—its niceties and refinements were just as properly machine-work as its sculptures were properly the work of man.

The utilitarian mood of many of our young men not only did not boggle at using the machine, but wished to use it not to make architecture but to make more machines; for he knew of no attribute of the completely utilitarian buildings that these men produced that was not an attribute of machinery. He persisted in refusing to recognise such buildings as architecture, and he regarded them, therefore, as outside the scope of that lecture. Their forms, however, frequently occurred also in buildings where there was obvious æsthetic intention—those definite shapes and bare surfaces, those thin clothings of metallic structure, suited our present preferences very well, and were often vehicles of real architectural emotion. The Five Orders were packed away in a cupboard—we were playing with new toys now, rather hard and cornery, but sensible and strong.

Maintaining that charm in a building was something that we could not afford to have abolished, the lecturer said that by insisting upon the desirability of charm he was putting a great strain upon the word, since the charm that he would think appropriate in a workaday building such as an office-block or a market would ordinarily be called by some different name. He could not find that name, but he thought they would apprehend what he meant. Perhaps it was an architectural parallel to what Mrs. Glyn called "it." Some office-blocks and markets and buildings of the kind gave one the feeling that business life was a dreadful affair; if they were ornamental, one felt that they were trying to distract one from their essential dreariness; if they were plain, one felt that it was because nothing really could be done about it. Others give one the feeling that business life was quite good fun and rather exciting. The buildings that did this might be traditionalist in style or they might be modernist—style was the one thing that never mattered to any real architect, one way or the other—but they had the precious quality of touching the emotions agreeably.

The charm largely due to æsthetic appropriateness was a very different thing from a charm that he thought was often useless and dangerous, the charm that relied not on form and proportion, but on the attractiveness of certain colours and textures in themselves, apart from their value in combination. Whatever value this charm might have was of a low order, and liable to tempt us away from essentials of design. Painters had lately learnt to be very much frightened of it, and he thought that architects who artfully mingled their bricks, their tiles and their other materials until every surface of their buildings reminded the onlooker of a sentimental water-colour, ought to pull themselves together and remember that the days of the sweetly pretty were, or ought to be, past. To merge a building into a landscape might be justifiable if the building ought not to be there, and very often this was æsthetically the case. A certain amount of landscape surgery was necessary to prepare for a hard new monument like a classical temple or a Vanbrugh mansion, and if the monument be nothing of this kind, but merely a paper-mill or a county lunatic asylum, there was not likely to be money available for the outworks and levelling that would make a satisfactory transition between it and its surroundings. He did not know if the concrete-box school of rural architecture would treat all roses and honeysuckles with weed-killer, but, if not, he would suggest that creeping plants generally mitigated the harshness of new surfaces more appropriately than the spotty coat of imitation antiquity. In towns, and in the country where a building was proudly and appropriately placed, its newness was a thing that a reasonable man should rather exult in than try to dissemble.

Except in domestic design, where our supremacy was threatened more by the advance of other nations than by any falling back in ourselves, he did not think that our architectural average was high, but our best could equal anyone else's best, and in the long run it was the best and only the best that told. The improvement in art education, due to the steady growth of our schools, was a strong factor in our favour. Our public was neither enlightened not enterprising, but its complacency in trade matters had recently had a most salutary jolt, and its curious credulity about what America told it might have the good result of leading it to suppose that there was money in Art. Perhaps we might think that wherever one found the money it was unwise to look too closely at the Art, but we could keep that opinion to ourselves. The great commercial enemy of Art hitherto had been pretentious elaboration, and that was a quality that one might hope we had seen the last of for some time.

Mr. Robert Atkinson, proposing a vote of thanks to the lecturer, said he felt rather stunned by Mr. Goodhart-Rendel's eloquence; he seemed to have walked over architecture in six strides and flattened it all out. Architecture "boiled down" to two things: either it was individual or it was traditional, and eventually it must become traditional by a process of assimilation. The individualism of fifty years ago had all passed away and the unfortunate thing about that period was that it had left no tradition and had left the next generation of architects nothing to build on or to start with. We were beginning afresh largely because of new materials, which were producing an individualism that in a few years would become traditional. Even the Dutch and the Germans were getting down to the limits of their new ideals. The proper use of machinery was to produce the same work but in less time, so as to give more leisure to the worker; but instead the machine was worked to its fullest capacity and produced little that was wanted. It should do less work and do it better.

Mr. D. S. MacColl, seconding the motion, having paid a tribute to the lecturer's "restrained and witty exposition," agreed with him that the Greek temples were an extremely limited form of art, but that a great deal of refinement and originality was achieved in subtle modifications of the original idea.

Mr. Reginald Hallward said he was one of the personal craftsmen who were supposed to be dying in the last ditch. Well, he did not find it an uncomfortable place. Craftsmanship was giving a very good account of itself and was gaining in influence. Craftsmanship was not dead, but very much alive.

Mr. A. R. Powys said that one of the things that made him think that architecture was difficult to understand was the number of suggestions to remedy the ills from which it suffered. There was much talk of tradition and modernism, but it was better that we should think about building in a normal way and get forward with our work. The duty of an architect as a man was to bring out from things the beauty that lay in them.

Mr. H. M. Fletcher said that every sentence of the paper was worth discussion, but one did not know what to pick and choose. We were, he thought, much too apt to rely on the particular beauty of a piece of texture or feature and not to consider its effect on the whole. It was the combination of different features that made the building and unified it. In "functional" architecture too much of the designer's attention was given to the perfecting of individual features without considering their relation to each other.

Professor S. D. Adshead said he noticed the lecturer carefully guarded himself by saying he was an agnostic, and he therefore left them free to dispute every question which he put forward without committing himself to any particular one. He agreed with the lecturer that, looking at it broadly, the craftsman was at an end. With regard to modernism, he was not satisfied that the lecturer had covered the field as well as he might have done. There were more ways of expressing modern methods than one; some of them were good, some were bad. The most elemental of modernists was the functional cubist: the man who designed cubes and did not believe in æstheticism at all; he did not know what it meant. He did not like to class Mons. Le Corbusier with that class, but he was rather inclined that way. But there was M. Mallet-Stevens, and one or two others, Mendelsohn, perhaps, who went further; they dug deeply down into the earliest beginnings of humanity. They derived their inspiration from periods in the world's history before the appearance of man—they got down to the beginnings of evolution and built with inspiration from a Crustacean Period. They were fond of the armoured type of animals—tortoises, lobsters and crabs—they put their windows in cracks and in corners, and the main façade had a huge armoured plate. Sometimes that plate was pierced with bullets. Sometimes it took the form of an invertebrate creature, as if it were made of dough, or it had the look of a sandcast. The work of Mendelsohn was a little weak in that way; but the men the speaker was interested in were the men who simply endeavoured to get rid of the over-travestied details of traditional architecture and to get down to the very roots of humanity. They resuscitated such elemental traditions as were essentially abstract. They searched about amongst rock-cut tombs, Cretan Palaces, Egyptian and Persian art. They reconsidered the caps, bases and entasis of columns. Amongst such one could mention many distinguished architects. Epstein was one of their sculptors. They knew that by getting back to the earliest stages in human endeavour they got nearest to strong and definite emotions. This was the school which he thought we should watch and encourage.

Mr. Percy V. Burnett having contributed a few remarks to the discussion,

Mr. G. Grey Wornum said that craftsmanship had got to be vastly improved owing to the new importance with which it was endowed as a result of the placing of much less ornament and the function which it had to serve. Metalwork, for instance, which was no longer required to withstand violence, could be made much more lightly, and this opened up a wider scope than the craftsman had ever had before. New materials gave the craftsman ample scope for his art for a long time to come.

The President then put the vote of thanks to the meeting, which was carried with acclamation, and the lecturer briefly replied.

ILLUSTRATIONS

PLATES.

New Business Premises, Pall Mall.

The new showrooms opened by Messrs. Crane-Bennett, Ltd., in Pall Mall, comprise nine floors, two of which are allocated to the exhibition of their plumbing equipment, as well as a large display of hospital fixtures. On a lower floor can be seen an exhibition of their new "Pall Mall" radiators. The five upper floors are used as offices, and the whole building, as well as the finish of the showrooms and the settings of some of the exhibits, is by Sir Edwin Lutyens, R.A. The vestibule, which is entered through two double doors, is lined with Roman Travertine marble and is lighted by an electric ceiling light of the architect's design, from the room above through a circular gallery formed in the decorated ceiling of the vestibule. The furniture here, as elsewhere, has been designed by the architect. In the main showroom on the ground floor are several outstanding exhibits. Two model bathrooms have been specially designed by Sir Edwin Lutyens, and the various built-in baths have received individual treatment of their settings. From the ground floor showroom a staircase with a specially designed wrought-iron balustrade leads to the visitors' lounge. At the rear of the building there is another staircase connecting up all of the showroom floors and reaching also to the office floors. Midway between the ground floor showroom and the first floor office is a visitors' lounge, panelled throughout in limed pine and furnished with hand-carved limed pine and walnut furniture.

The front elevation is in Portland stone, whilst the two back elevations are respectively white-glazed bricks and Leicestershire greys, the roof being formed of reinforced concrete with either asphalt or cast-lead as a protection. All the office floors and concrete covered with oak blocks, the joinery throughout being polished mahogany, except on the lower basement floor, where teak has been used. From basement to first floor on the main staircase, the stairs, landings and walls are of Roman Travertine marble.

The general contractors were Messrs. Holloway Bros. (London), Ltd., and the following firms were associated with the work:—Redpath, Brown and Co., Ltd., steel; Stitson, White and Co., plumbing; Crane-Bennett, Ltd., plumbing equipment; J. Jeffreys and Co., Ltd., heating; Crane-Bennett, Ltd., heating equipment; Art Pavements, Ltd., floors (terrazzo); Jenkins and Co., Ltd., marble; Higgins and Griffiths, electricity; Birmingham Guild, balustrades (iron); Nichols and Jones, High Wycombe, furniture; Johnson, Poore and Co., Ltd., furniture; Waygood Otis, Ltd., lift; Muntzer and Son, curtains and carpets; T. H. Ball and Co., Ltd., mirrors; Crittall and Co., windows.

New Offices, Cradley Heath, Staffs.

The new office block for Messrs. Ernest Stevens, Ltd., manufacturers of "Judge" ware, faces practically due south and is situated outside the works and facing the main entrance thereto. The plan is designed to meet certain requirements of the particular business for which it is intended. It provides, compactly arranged about a large central entrance hall, offices for the principal, general manager and staff, also a large showroom. In addition there is a staff mess-room and ample cloak and lavatory accommodation for both sexes. The building is faced externally with Dorking hand-made bricks and Portland stone. The roof is covered with hand-made tiles. In a semi-circular arch above the doorway is a sculptured bust of a judge (the "Judge" being the firm's trade-mark), executed by Mr. Courtenay Pollock. All rooms are of good proportion and the lighting everywhere is excellent. The general office has a panelled oak dado. The entrance hall is panelled to a height of 8 ft. 6 in. and the private office to a height of 11 ft. Rubber flooring has been used for silence, and "Acoustikos" has also been used to further this end. Artificial lighting is electrical and the building is warmed by low-pressure hot-water on the radiant heat principle—no radiators, pipes, or valves being visible.

The general contractors were Messrs. J. and A. Brazier, Ltd., of Bromsgrove, and the following firms were associated with the work:—George Wragge, Ltd., ironwork; Stourbridge Glazed Brick Co., glazed work and sanitary fittings; Haywards, Ltd., skylights and laylights; Hollis Bros., parquetry; George Spencer, Moulton and Co., Ltd., rubber flooring; Griffin Foundry, fireplaces; Walker and Worsey, door furniture; Best and Lloyd, electrical fittings; Kean and Scott, Ltd., blinds; Kingfisher, Ltd., tables, decks, etc., and office furniture generally; Chamberlain, King and Jones, Ltd., special chairs, etc.; J. R. Pearson, Ltd., gates and railings, metal plates and signs; Thomas Glover, Birmingham, electrical work; Parker, Winder & Achurch, Ltd., heating; Cullum and Co., "Akousticos"; Dorking Brick Co., facing bricks; Birmingham Guild, Ltd., lead rainwater heads.

Messrs. Cherrington and Stainton, FF.R.I.B.A., of Birmingham, are the architects.

Welsh Tuberculosis Hospital Competition.

We illustrate this week the first and second premiated designs in the competition for the Welsh Memorial Tuberculosis Hospital, to be erected at Hayes Farm, Sully, near Cardiff. A criticism of the designs is on page 823, and the award of the assessors is given under Competition News, page 822.

New Recording Studios.

The new recording studios belonging to the Gramophone Company at 3, Abbey-road, St. John's Wood, embody the result of years of research by a specially trained staff at the company's factory at Hayes, Middlesex. Three studios have been built, in order to accommodate the different categories of music which have to be recorded from day to day. The medium and big studios have large stages, the latter having a platform to accommodate 250 musicians, while the auditorium will accommodate 1,000 people. The walls of these studios have been specially designed to give correct resonance to all sounds, and to avoid any echo. A special system of air cleaning and ventilation has been installed, in order that the atmosphere in each studio shall ensure that artistes and musicians will be able to perform during any period of the year under the most comfortable conditions. The warm air is continually washed and purified.

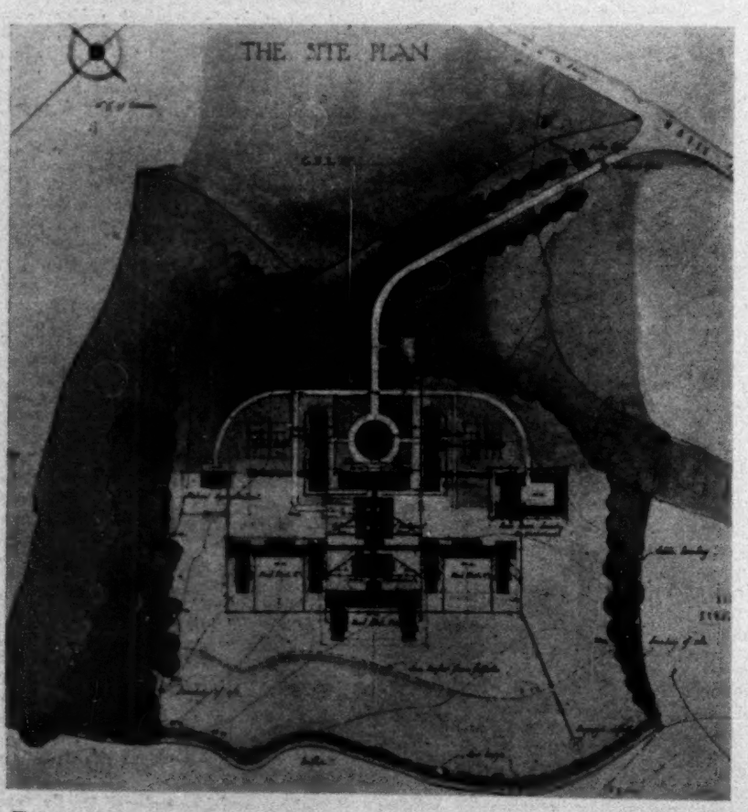
The architects were Messrs. Wallis, Gilbert & Partners, and the builders were Messrs. George Newton & Hill.

Lloyds Bank, North Sutton.

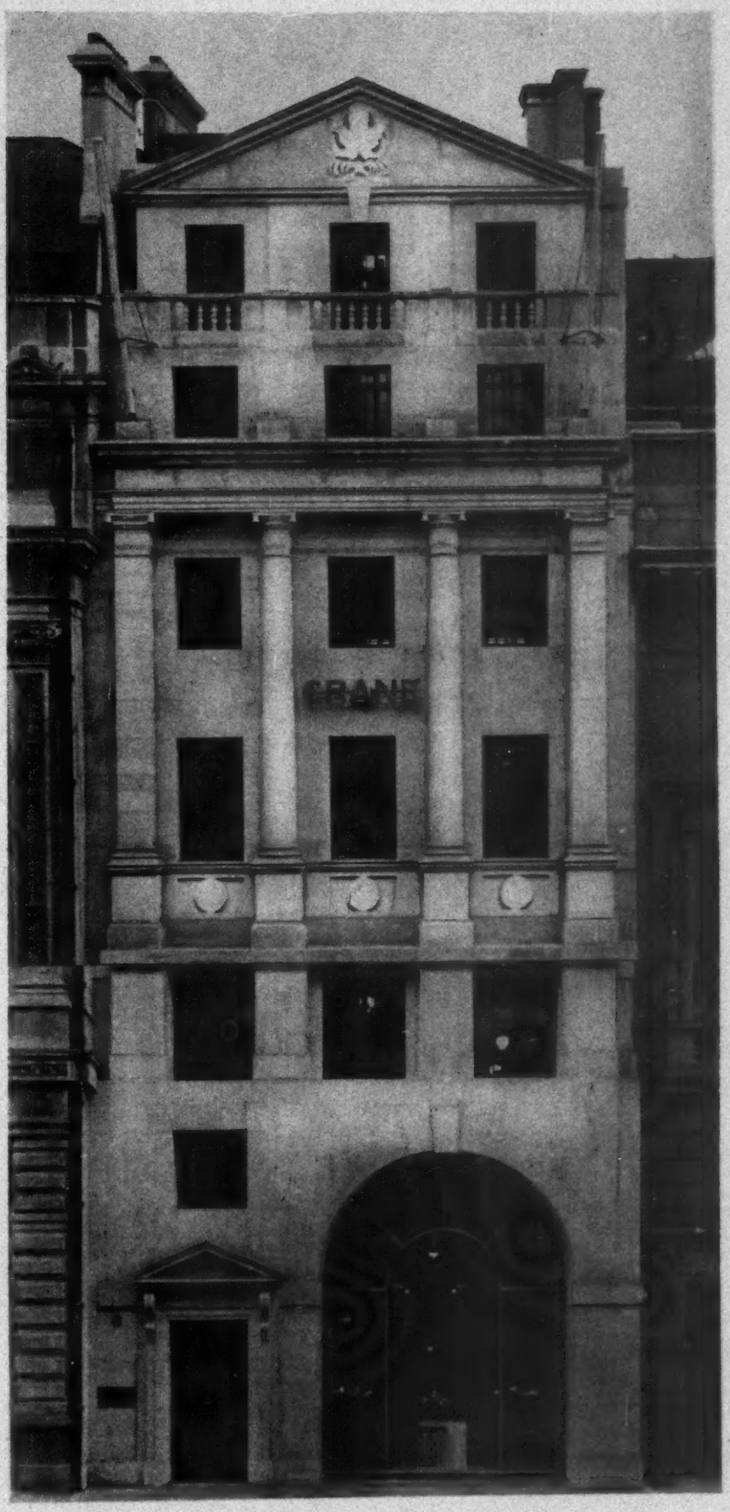
This bank occupies an important position in the High-street. The entrance leads to the banking hall, with the manager's room at the side. Ample space is arranged for the clerks, with cloakroom and lavatory accommodation. A staircase leads to the basement, where there are the strong room, heating chamber and stationery store. There is also a book lift to the basement. The building is faced with Portland stone and has a roof of green tiles. The window frames are in bronze, and in the grille over the front door the bank coat of arms has been incorporated. The entrance doors are of highly figured maple butt, and the interior doors and panelling are African mahogany with ebony and sapeli inlay. The floor to the banking hall is paved with Biancola in 12-in. squares, and the rest of the floor is Jarrah wood-block flooring.

The general building contractors were Messrs. Cropley Bros., of Epsom, and the following were sub-contractors:—Redpath, Brown and Co., Ltd., steelwork; F. J. Barnes, Ltd., Portland stone; Candy and Co., glazed roof tiles; Colley, Meikle and Co., heating work; W. Hitchins and Co., Ltd., joinery; the Art Pavements and Decorations, Ltd., Biancola flooring; G. Johnson Bros., lettering; the Lawford Asphalte Co., Ltd., asphalt work; George Johnson, Ltd., book lift and enclosure; O'Brien, Thomas and Co., Ltd., sanitary fittings and door furniture; Bratt, Colbran and Co., Ltd., fireplace in manager's office; C. Welstead, Ltd., Croydon, bronze windows and grilles; J. H. Heathman, ladder to loft; W. Mallinson and Sons, Ltd., Jarrah flooring; St. Dunstan's, door mat; C. Parsons, Reigate, electrical work; Harcourts, Ltd., electric fittings; the Ratner Safe Co., Ltd., strong-room door; Brown and Madeley, fibrous plaster cornices.

Messrs. J. and W. Hatchard-Smith, FF.R.I.B.A., are the architects.

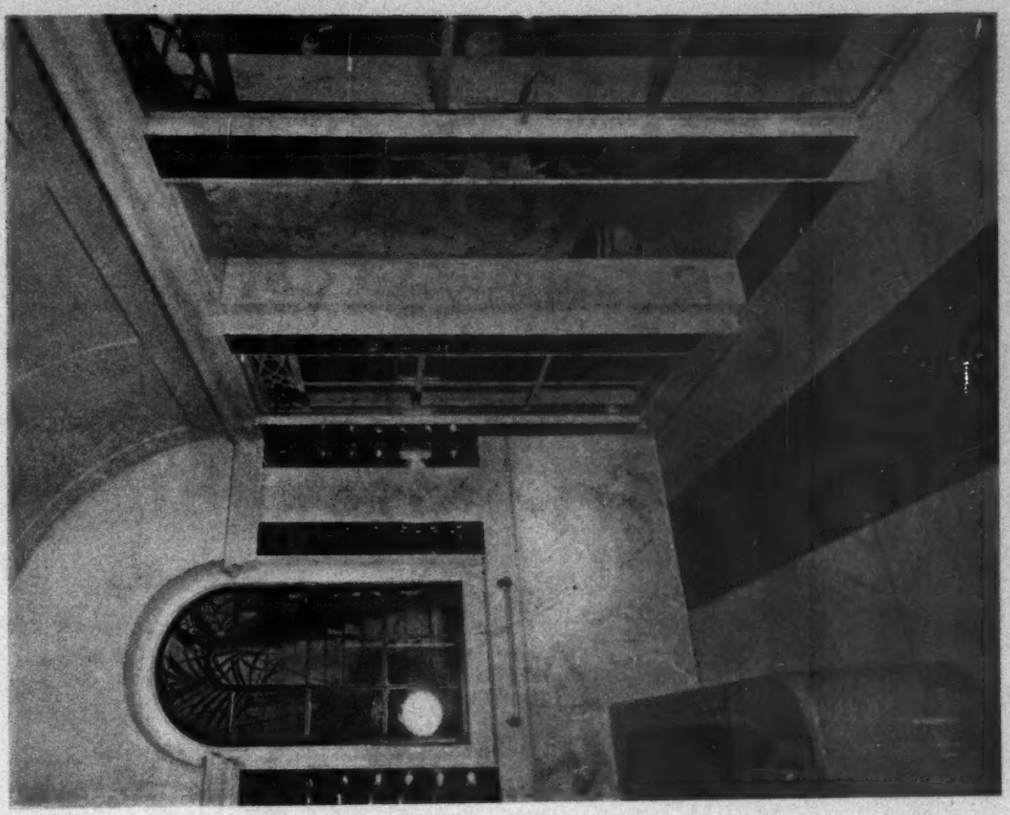


Tuberculosis Hospital Competition, Cardiff: Second Premiated Design.

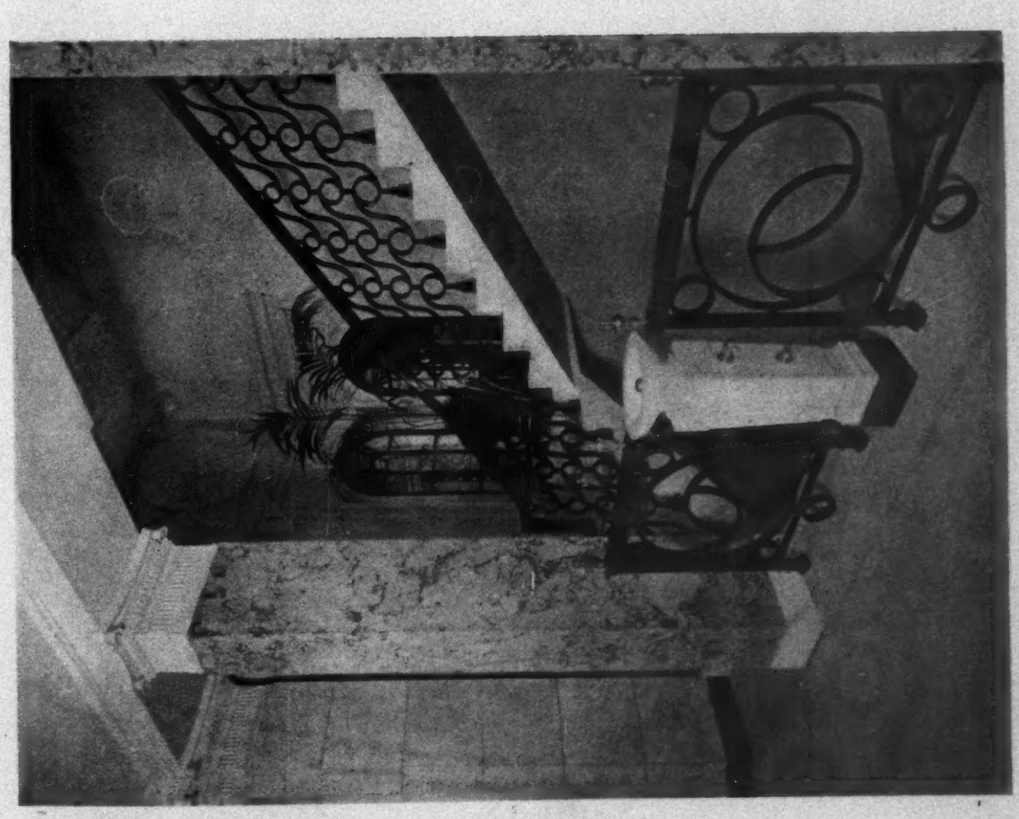


New Business Premises, 120, Pall Mall, S.W.

Sir Edwin Lutyens, R.A., Architect.



A Bathroom.



Staircase.

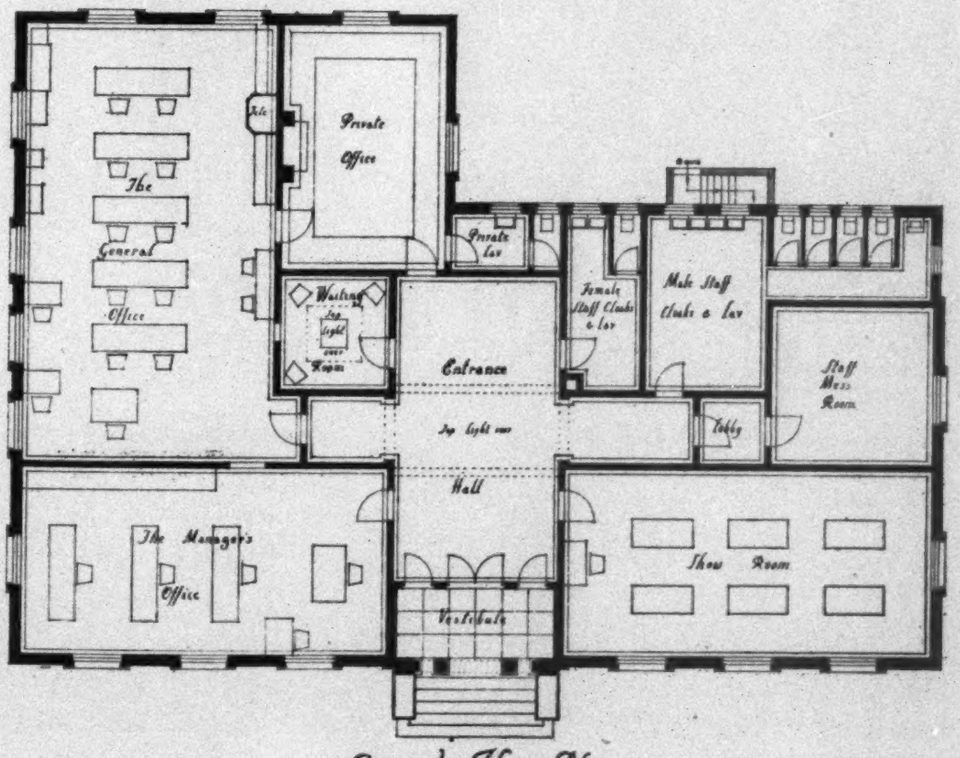
New Business Premises, 120, Pall Mall, S.W.

Sir Edwin Lutyens, R.A., Architect.

New Offices, Cradley Heath, Staffs.

Messrs. Cherrington and Stainton, FF.R.I.B.A., Architects.

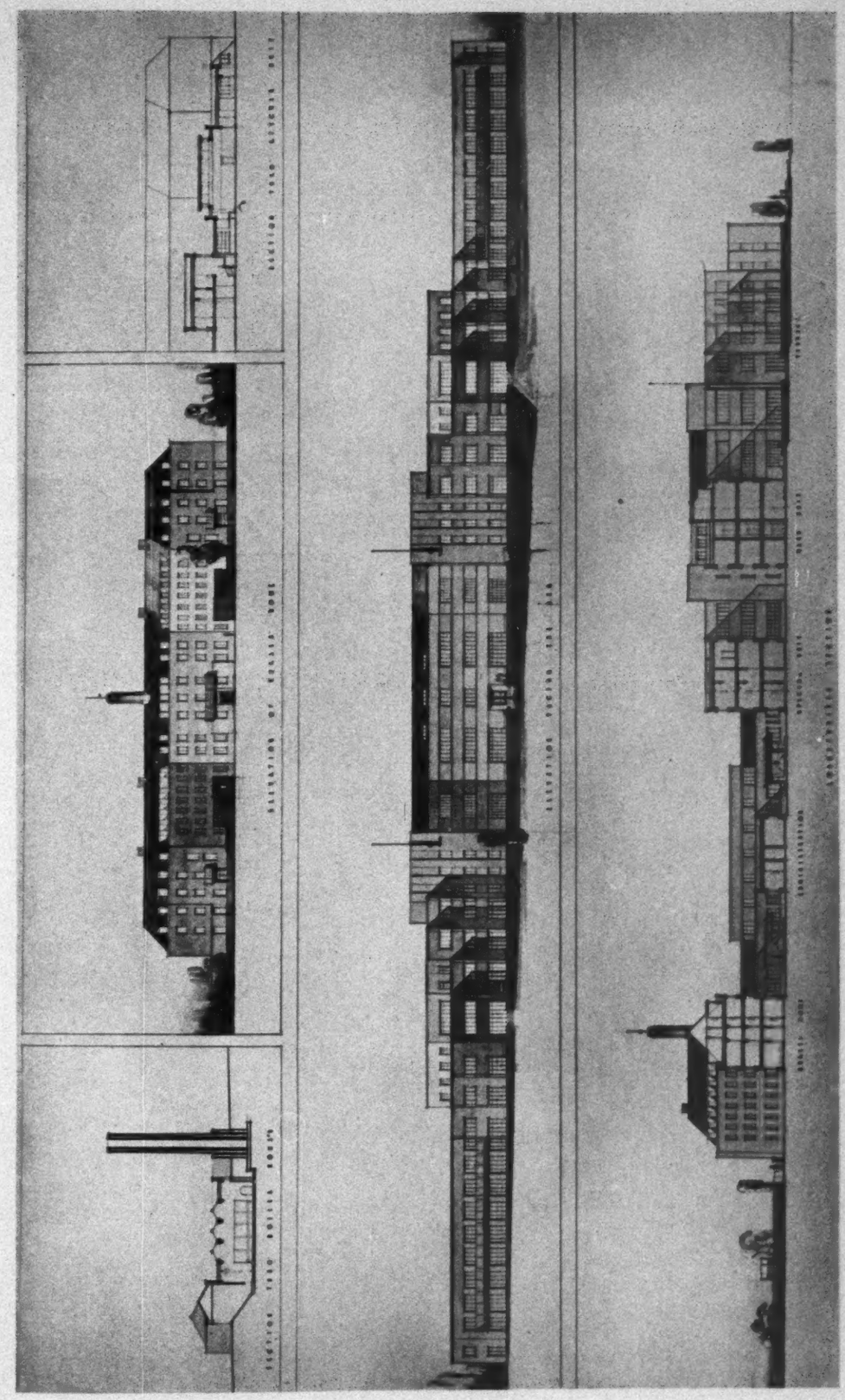
PRIVATE OFFICE.



Ground Floor Plan

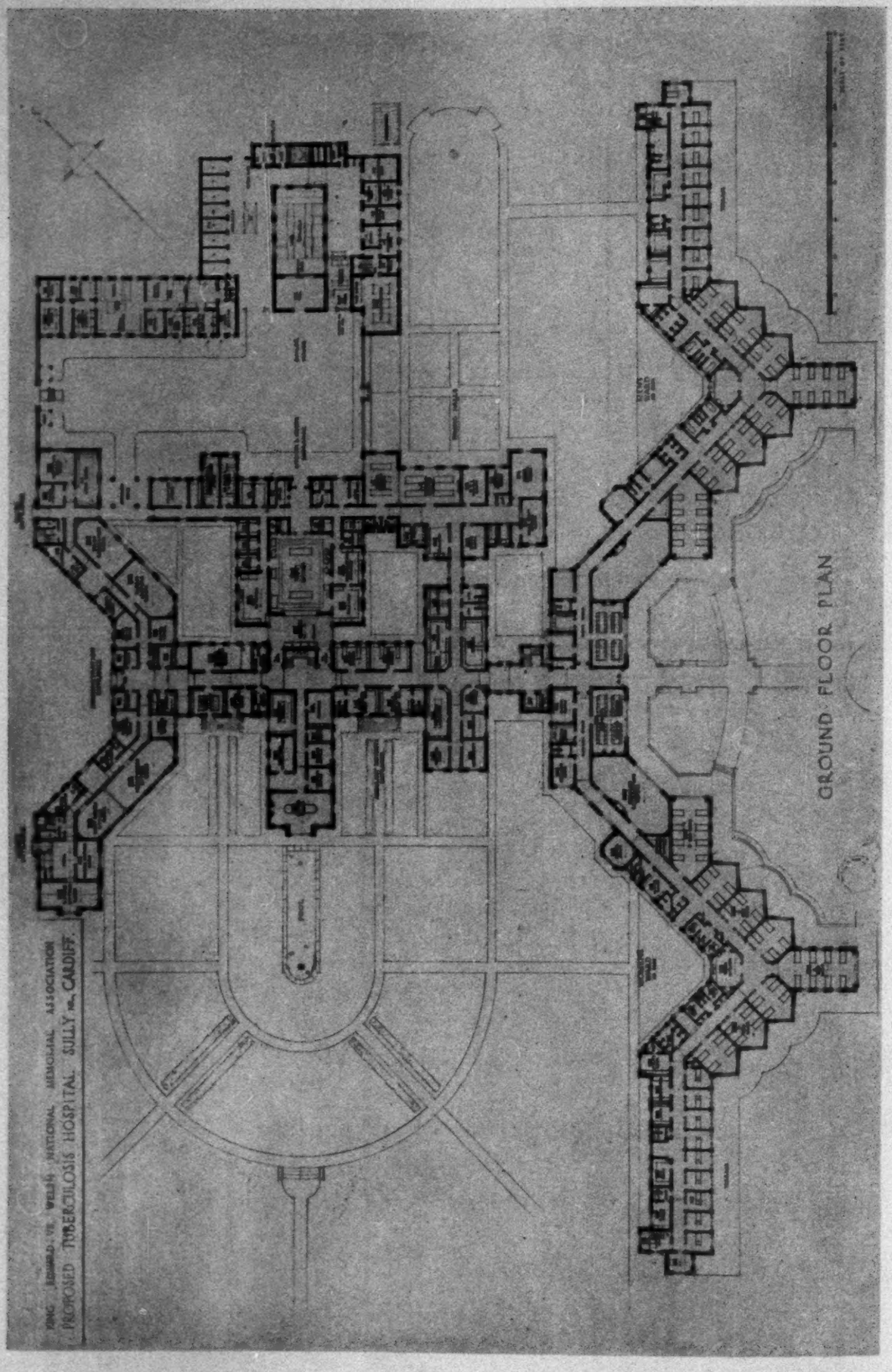
New Offices, Cradley Heath, Staffs.

MESSRS. CHERRINGTON AND STAINTON, FF.R.I.B.A., Architects.



Competition for Tuberculosis Hospital, Hayes Farm, Sully, near Cardiff: First Premiated Design.

Messrs. William A. Pite, Son and Fairweather, FF.R.I.B.A., Architects.



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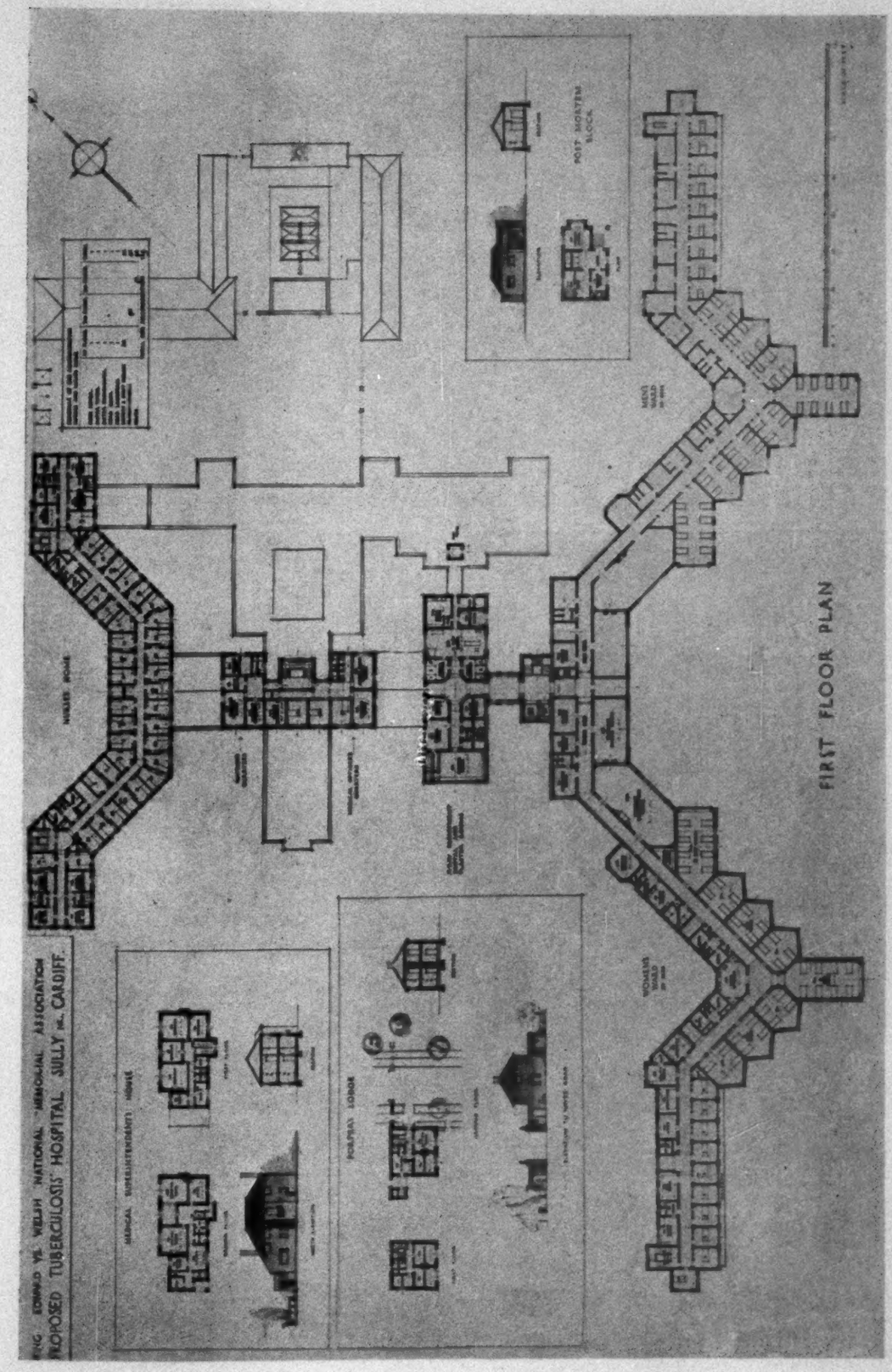
FIRST FLOOR PLAN
KING EDWARD VII. WELSH NATIONAL MEMORIAL ASSOCIATION
PROPOSED TUBERCULOSIS HOSPITAL SULLY nr. CARDIFF.

Competition for Tuberculosis Hospital, Hayes Farm, Sully, near Cardiff: First Premiated Design.

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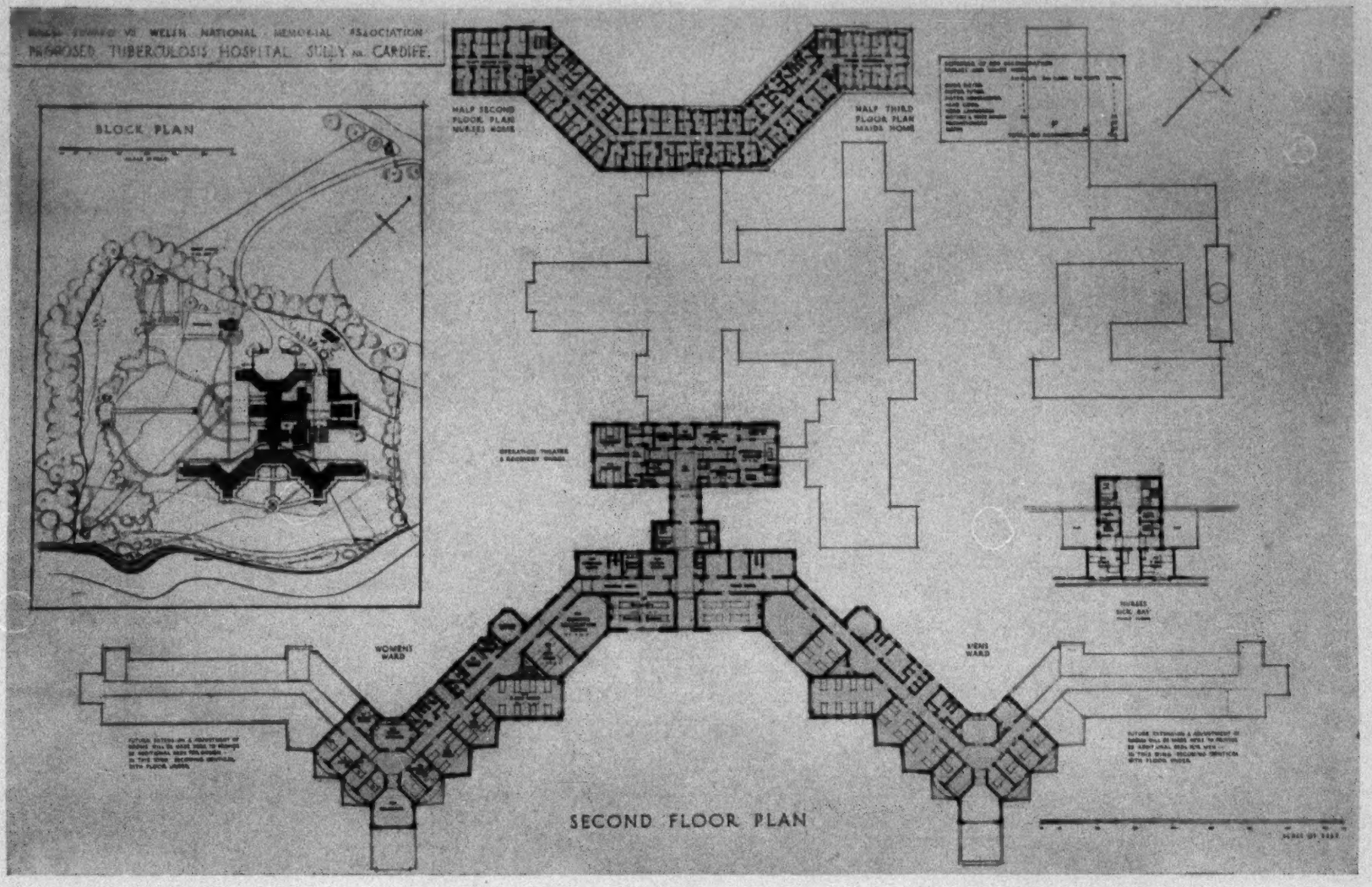

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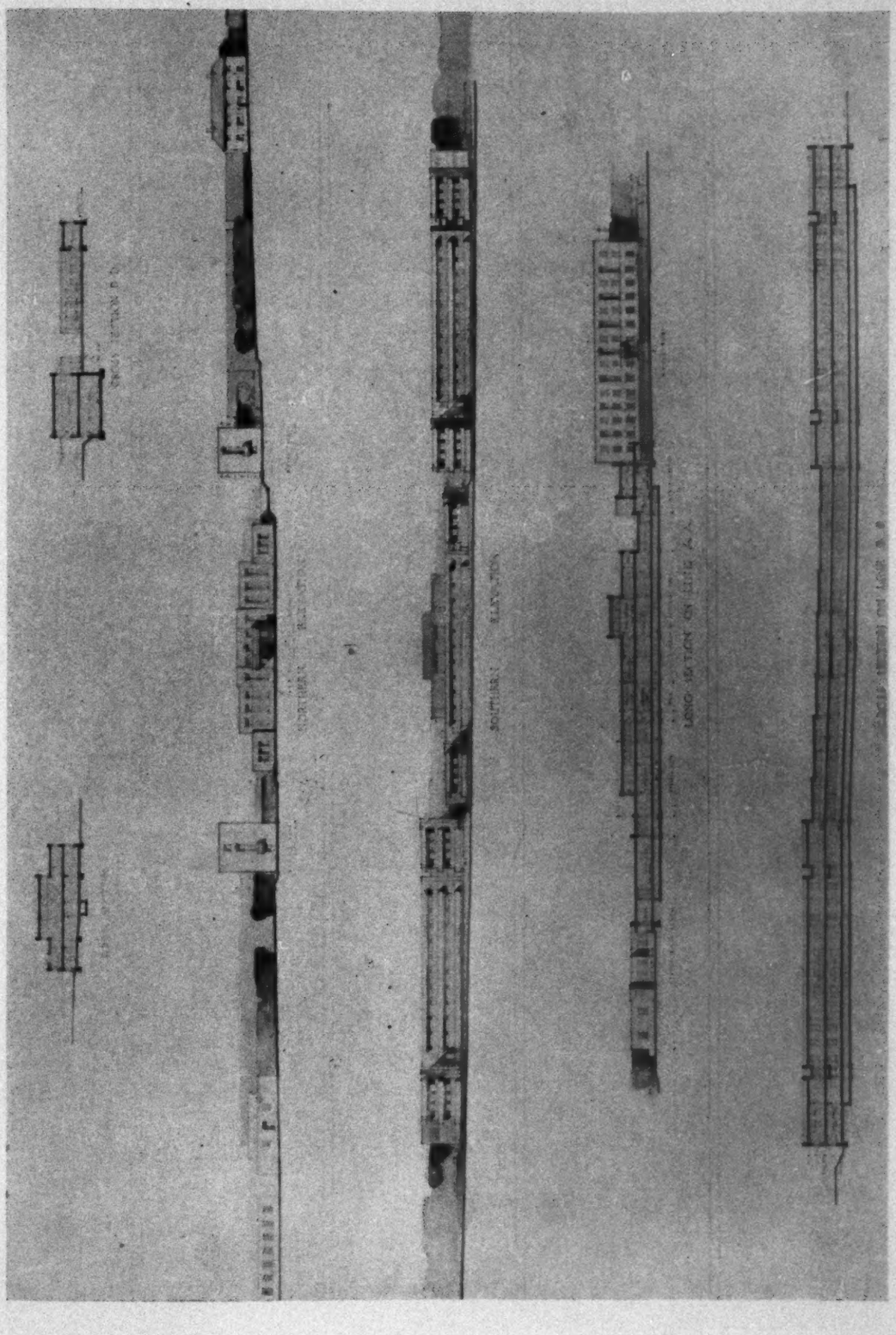

Competition for Tuberculosis Hospital, Hayes Farm, Sully, near Cardiff: Second Premiated Design.

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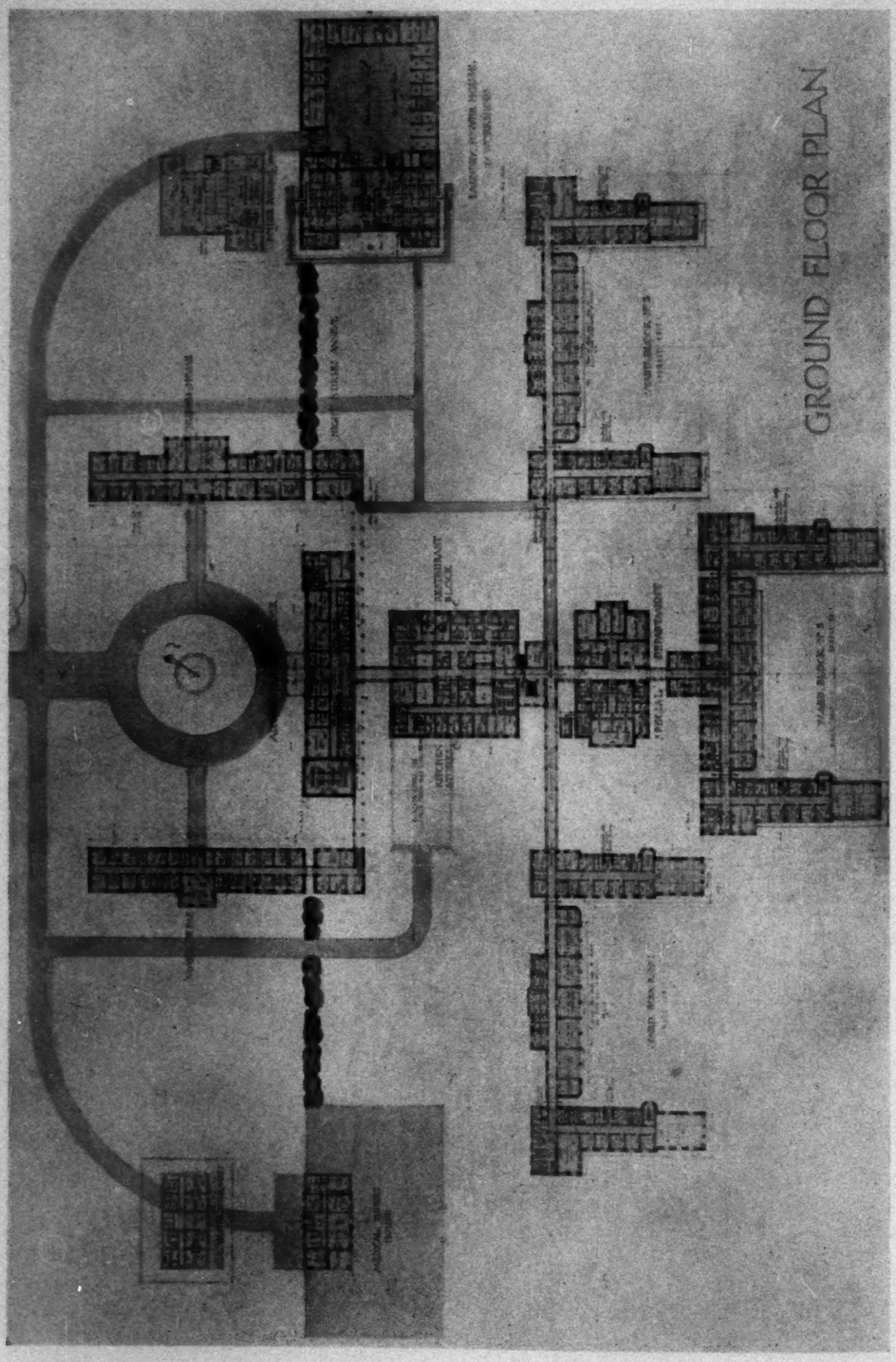

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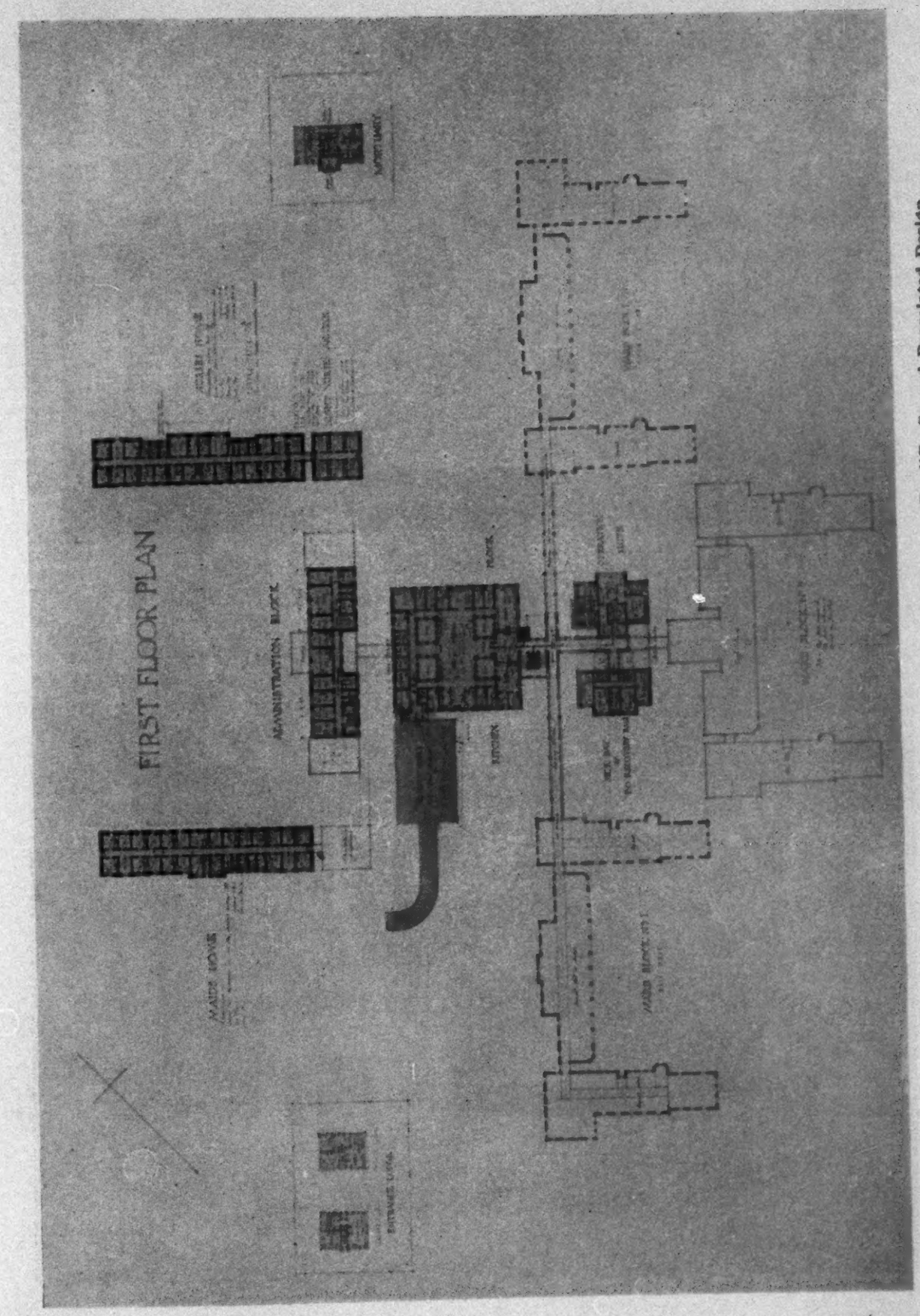

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New H.M.V. Recording Studio, Abbey Road, St. John's Wood, N.W.

Messrs. Wallis, Gilbert and Partners, Architects.

Lloyds Bank, North Sutton.

Messrs. J. & W. H. Hatchard-Smith, FF R.I.B.A., Architects.

INCORPORATED INSTITUTE OF BRITISH DECORATORS

CONTEMPORARY DECORATION.

At a meeting of this Institute, held on Thursday, November 5, at the London School of Hygiene and Tropical Medicine, a paper was read by Mr. Arthur J. Davis, F.R.I.B.A., Hon. F.I.B.D., on "Some Aspects of Contemporary Decoration." The President, Mr. Henry G. Dowling, F.R.S.A., F.I.B.D., occupied the chair.

The lecturer said that the whole point of pictorial art was that it communicated something which could not with equal force be spoken or written, and it was only within recent years that we had returned to a proper understanding that the purpose of decoration was to adorn and illuminate, and not to tell a story or point a moral. In its origin all art was decorative, that was to say, its object was to provide a restful and neutral background to eliminate all startling and disturbing effects and to subordinate any particular detail to the general harmony. For these reasons the advantages of broad masses and low tonalities were appreciated. All polished surfaces which reflected the light and were, therefore, disturbing, were avoided, and that was why painting in fresco and in tempera, tapestry, sculpture in low relief, and inlaid surfaces were considered of more decorative value than highly varnished paintings separated from their surroundings by elaborate gold frames or mounts.

A glance at the conditions which exist at the present time in the world of decoration showed that there was no recognised style, such as was generally adopted by the artists of the eighteenth century, who all accepted the classical tradition, but that a number of small groups and many individuals were working out their own salvation. These artists could be roughly divided into two camps, supporting opposite aims and aspirations.

In one group were to be found the blind lovers of everything which savoured of archæological accuracy and historical interest. They inhabited houses which they referred to as reproductions and which were to us merely incompetent fakes. They sentimentalised over the charm of early English half-timber and Tudor panelling. They were possessed by a passion for worm-eaten oak, dented pewter and hammered iron. They tolerated no innovations and no compromise with degenerate modernity.

In the opposite camp we found the supporters of the advanced New Movement, who frankly admitted that they intended to break completely with the past and to ignore everything that had hitherto been accepted. They claimed that their point of view was the only logical one, and that it represented the rational expression of the present age. They further added that the future of architecture and decoration would follow in the direction that they were indicating, and that they alone could prophesy the trend of artistic progress. These reformers looked to Germany, France and Scandinavia for their inspiration, and worshipped at the shrines of Mendelssohn, Le Corbusier and Mallet Stevens. The surgical ward and operating theatre, suggestive of hygienic bareness and uncompromising sanitation, were the models for their schemes of interior decoration, from which were banished all superfluous ornamentation. Some of the more puritanical believers in the advanced movement went a step further and declared that all decoration was futile and unnecessary, the unrelieved lines of construction alone being logical and therefore beautiful, any additional ornament being a mere sentimental concession unworthy of a scientific age.

Now, he suggested that it was immaterial which language was selected to express the thought so long as the individual work itself contained an element of artistic quality, that illusive spiritual essence which was outside the work and yet belonged to it. Quality was the monopoly of no particular school or group, but was the hall-mark of all true works of art of all times and all civilisations, and it stamped the efforts of inspired artists with superiority which was easily recognised by all sensitive minds.

What the future would bring forth Heaven only knew, but definite changes always had occurred and would occur, and it was fatuous for anybody to proclaim that the dress, the decoration, or the furniture of the future would develop in any particular direction. All we could do was to endeavour to isolate each individual artistic production with a sympathetic understanding of the conditions under which it had been created and the period in which it was produced.

"Do not trouble yourself too much about the light of your statue," said Michael Angelo to the young sculptor; "the light of the public square will test its value." As we could not control the future we might at least review the past and gather from it lessons that would guide us in the production of our contemporary work. If he had insisted on the word "quality" it was because he firmly believed that it was only from that standpoint that we could judge any work of imagination, and that it was idle to quarrel over the question whether traditionalism or functionalism or any other "ism" was the more suitable vehicle of expression. He mentioned this word "functionalism" as it was the catchword of the moment in æsthetic circles. He believed it to mean that its devotees had adopted a formula which insisted on everything being given an outward expression of the function for which it had been created. This religion professed to despise all shams, to sweep away the cobwebs of the past, and to start all over again. Like Minerva springing ready-armed from the brain of Jupiter, it aspired to create a new world complete and independent of all former growth and example.

No fashion was permanent, and any artist whose sole claim to serious consideration was his slavish obedience to the passing craze, or his desire to thrill and astonish us by his originality, would eventually suffer when he could no longer represent the last word in modernity if the work he had produced was void of all the sound qualities which formed the foundation of authentic progress. This did not imply that the very interesting transition through which decorative art was at present passing on the Continent, in America, and, in a lesser degree, in this country, was not without considerable value; on the contrary, no one would deny that much of it was vital and truly progressive. Some of its characteristics had resulted from the change in the conditions of modern home life, as many people now lived in flats and small dwellings, owing to the difficulties in dealing with the servant problem and the necessity of economising in the upkeep of the home.

Many labour-saving devices and engineering improvements had affected the decorative treatment of our interiors, and there appeared to be a general desire for simplification, resulting in a reaction against the overcrowding of rooms with unwieldy furniture, knick-knacks, and useless ornaments. Modern wall-lighting had so evolved that in itself it now constituted decoration, and many ingenious methods of concealing and shading electric light had been invented to harmonise with curtains and hangings in artificial silk and other materials which demanded a plain background for their proper display.

Although many collectors who possessed valuable pictures, prints, and books, deplored this tendency, it must be admitted that most charming effects could be obtained with bare walls and plain surfaces. The reaction against Victorian overcrowding was long overdue, but many beautiful, if unnecessary, decorative effects must be sacrificed in this desire for simplicity at all costs. There was much to be said in favour of this somewhat Spartan treatment when it was not pushed to extremes, but it rather tended to ignore the human emotional factor, and therefore it was doubtful whether it would greatly influence the future trend of artistic progress. In all creative effort we might borrow and adapt, but must never merely copy. A servile reproduction which had no relation to our age and time was contemptible; it was an unsuccessful attempt to galvanise a dead body into life. But the votaries of the opposite theory who claimed to ignore all that the past could teach us were equally in error, and he believed the right solution was to steer a middle course between the Charybdis of slavish repetition and the Scylla of uncontrolled licence.

A study of the history of art showed a slow but ever visible evolution, without abrupt changes, but always controlled by factors which equally affected other spheres of intellectual activity. Political influence, discoveries of unknown countries, alliances, wars and conquests, new materials and machinery, financial prosperity or the reverse, all had stamped themselves on the intellectual outlook of each succeeding generation. This evolution was still in progress. We could not escape from our time, and any attempt to jump forward, to take a short cut and to ignore the lessons of the past would only lead to ultimate confusion and failure.

Combinations of form, shape and colour, which had always appealed to the human emotions, would continue to do so, but a new vision could fashion them to suit altered requirements. Fresh harmonies could be created, new chords could be struck, but the eternal laws which governed design, proportion and good taste must inevitably be obeyed, and it was by the intelligent study of the qualities which graced the authentic works of the past that we must find our guide and inspiration in the creation of beauty and harmony in the setting of our present lives.

A cursory glance at the existing conditions in the world of decoration would show that no particular style, such as was generally followed in the eighteenth century in England, was accepted as representing the ideal of the present day. It was significant that although a large proportion of the work was designed by eminent artists and architects, much of it was controlled by competent firms of decorators and furnishers, while recently the departmental stores had also made an effort to secure available contracts. These organisations had created studios directed by artists, many of them ladies, who prepared their schemes and supervised the work for their customers. Naturally the output of these firms had a rather commercial flavour, but important decoration contracts were successfully carried out in this way.

Allowance should be made for the difficulties attendant upon all endeavours to raise the *level of artistic accomplishment* in the world of to-day, where industrial and economic circumstances were apt to impose conditions which were antagonistic to the creation of beauty in the products of industry. Beauty had, to a certain extent, been destroyed by machinery, and it was for us to recreate it. In former times, before the advent of the factory, if one required an inexpensive article it was offered plain and unadorned. To-day, our cheapest utensils were covered with bad ornament, stamped on them to cover the defects of their construction, and it was almost impossible to discover in our shops and stores any object which was plain and at the same time inexpensive. When all ornament was applied by hand it gave added value to the thing it adorned. He suggested that the reason for the lifelessness of much of our English decoration was the lack of scholarly knowledge in the equipment of our art students, whose work was too often of a timid and uninspired character. Opportunity and example must be given to educate on a broad basis and for all the different trades if we were to have the best artists and craftsmen for industry which the country could produce.

The Incorporated Institute of British Decorators had done, and was still doing,

much to encourage the young artist and craftsman, and its example should be followed all over the country by similar institutions, whose purpose should be to promote a better understanding of the educational value of good decoration. There was no lack of skilled labour in this country, and the reputation for good solid workmanship, for which British goods were renowned, still survived, but the outward form given to many of our products in their essentially decorative side was often inferior and commonplace and below the standard set by craftsmen in the manipulation of their materials.

We must return to the understanding that decoration had a considerable influence on our health and mental outlook. We all knew the psychological effect of cheerful surroundings on invalids and children, and the background of our daily lives was reflected in our thoughts and actions to a degree which was hardly realised, even in this age of medical progress. Good art was of supreme importance. It was an instinctive attempt to add to the material necessities of life an element of the spiritual and, therefore, the everlasting. If change did not always spell progress, neither would slavish worship of past standards lead to anything but stagnation. The end in view was not denial but interpretation, not destruction but reconstruction, and this with the very methods and principles hitherto in use.

The lecturer then proceeded to show a number of lantern slides of the work of living artists, architects and decorators.

A discussion followed, which was taken part in by the President, Professor S. D. Adshead, Mr. Ashby Tabb, Mrs. Lanchester, Mr. Hugh Davies, Mr. Charles Pears and Mr. Last. The lecturer having replied, a vote of thanks was proposed by Mr. A. Andrews and seconded by Captain F. R. Wray.

SHEFFIELD SOCIETY OF ARCHITECTS

PLACES OF PUBLIC ENTERTAINMENT.

At a meeting of the Sheffield, South Yorkshire and District Society of Architects and Surveyors, held at Sheffield on November 12, a lecture was given by Mr. W. Milburn, B.Sc., F.R.I.B.A., F.S.I., on "Places of Public Entertainment." The lecturer said that places of public entertainment comprised theatres for the public performance of stage plays, concert halls, kinemas, dance halls, bazaars, exhibitions or other premises used for public entertainment. Having dealt with the Acts relating to such premises, the lecturer said in their designing and construction the primary consideration to be kept in view was the safety of the public, performers and staff. The first factor which affected this aim was the site of the building. The ideal site, which, however, was not always attainable, was an island site with thoroughfares on all sides. The L.C.C. regulations required that the premises should abut upon and have frontages of adequate length to two or more thoroughfares. The frontages, except in special circumstances, must form about one-half of the total boundaries of the site of the building, and must permit the provision of suitable exits from each tier or floor, direct to two or more thoroughfares. The thoroughfares were to be of such widths as would enable the persons who were to be accommodated to disperse rapidly in the event of fire or panic, and as would afford facilities for the approach of fire appliances. There were exceptions to this general rule in cases where there was no stage to the building, and the numbers accommodated were under 2,000, it being permissible for the premises to abut only upon one thoroughfare, provided open passage-ways of certain definite widths were provided around the remainder of the premises. The passage-ways had to be open to the sky, they must remain under the complete control of the licensee, and they should not be overlooked by windows from adjoining premises at a height of less than 12 ft. In considering the suitability of a site, the L.C.C. also had regard to the liability of congestion of the adjoining streets, to the adjacent fire risks, and to the proximity of other places of entertainment or assembly.

In regard to construction, the majority of licensing authorities required that the floors, tiers and roofs of the premises should be entirely of fire-resisting materials. All doors and openings approved by the licensing authority for the purpose of egress from the premises, and all such doors from the stage and dressing-rooms, had to be clearly indicated by the word "exit" in block letters, as a rule not less than 7 in. high. The L.C.C. were most particular that doors and openings, other than exits in sight of the audience, should not resemble exits, and they did not permit notices bearing the words, "No Exit," to be provided.

The L.C.C. regulations, except in exceptional circumstances, did not permit the premises to have more than two tiers of seating above the stalls floor, and the maximum slope permitted for a tier was 35 degrees. The height between floor and ceiling must in no part be less than 10 ft. The floor of the highest part of the stalls must not be more than 6 in. above the level of the street at the principal entrance thereto, and the lowest part of the floor of the stalls must not be more than 15 ft. below the level of the street at the principal entrance thereto.

Two separate exits had to be provided from each tier, or floor, which accommodated not more than 500 persons, and where a tier or floor accommodated more than 500 persons an additional exit had to be provided for every 250 or part of 250 persons above 500. Two of the exits for each tier or floor had to deliver into different thoroughfares or ways. When the tier or floor accommodated more than 300 persons, the width of each exit had to be at least 5 ft. In the case of a tier which was 40 ft. or more above pavement level, the width of the exits provided had to be 25 per cent. in excess of the normal standard.

In the case of theatres and music-halls, where the principal fire risk was on the stage, some of the exits from each part of each tier or floor had to be placed in positions remote from the stage. The L.C.C. regulations required staircases to have flights of not more than sixteen, or fewer than three steps each. Treads had to be not less than 11 in. wide, the risers not more than 6 in. high. All exit doors had to open outwards, and be fitted with automatic bolts. The L.C.C. required the seating area assigned to each person, where backs were provided to the seats, to be 2 ft. 4 in. deep, and 1 ft. 8 in. wide when arms were provided. Gangways were to be not less than 3 ft. 6 in. wide, and no seat was to be more than 10 ft. from a gangway unless the seatway between the seating was more than 12 in. wide.

The stage had to be separated from the auditorium by a brick proscenium wall, carried at least 3 ft. above the roof. The L.C.C. required that the safety curtain had to have arrangements for pouring water upon the side which was nearest the stage. The L.C.C. also required exits to be provided for on each side of the stage. The roof over the stage was to be provided with a lantern light equal to the base of one-sixth of the area of the stage. The side glazing had to be not more than 1-12th in. thick, and the sides had to be capable of being opened to an extent equal to the superficial area at the base of the lantern. These sides had to open automatically by the cutting of a cord, or fusing of a link. Flies and grid had to be of fire-resisting material, and adequate means of escape to the open air had to be provided. Scenery had to be counterweighted and hung on wire ropes.

Dressing-rooms had to be separated from the remainder of the premises by fire-resisting walls, and a ventilated lobby had to be provided betewen the stage and dressing-room block, such lobby being fitted with self-closing fire-resisting doors. All fittings in dressing-rooms had, as far as practicable, to be fire resisting.

Cinematograph enclosures had to entered from, and ventilated direct to the open air, and had to be provided with a window or skylight. A separate rewinding room was to be provided. Alternative means of escape had to be provided from the cinematograph enclosure and rewinding room.

With regard to fire protection arrangements, hydrants had to be supplied, connected direct to the mains in suitable positions. Automatic sprinklers were provided to the stage and stage basement, property rooms and carpenter's shop. The authorities usually required for theatres direct telephonic communication with the nearest fire brigade station.

With regard to lighting, all portions of the premises to which the public had access had to be provided with two independent systems of lighting. The lighting by one of the two systems was accepted as the "safety lighting" required by the regulations dated July 30, 1923, under the Cinematograph Act, 1909. The total lighting under the two systems was referred to by the L.C.C. as the "minimum" lighting. So far as the auditorium was concerned, this might be reduced or extinguished if switches were installed in positions from which a clear view of the audience could be obtained, or if an operator stood by each switch until the minimum lighting was restored.

The L.C.C. required that all parts of the premises occuped by the public, performers or staff should be warmed. The apparatus was to be capable of maintaining in the occupied building a minimum temperature of 55 deg. Fahr. when the outdoor temperature was 30 deg. Fahr. Rooms in which boilers and such apparatus were provided had to be entered direct from the open air, and had not to communicate with the remainder of the premises.

The L.C.C. required means of ventilation capable of providing a supply of outdoor air at the minimum rate of 1,000 cubic feet per person per hour. The ventilation had to be by mechanical plant, with, if required, exhaust ventilation. No objectionable draughts were to be caused, and an efficient air washer or filter was to be installed. The stage had to be so ventilated that a current of air could not be drawn from it to the auditorium.

Lift shafts had to be ventilated from the highest point direct to the outside air. The openings at the different levels were enclosed by fire-resisting doors, with interlocking devices.

In conclusion, in spite of all the thought and care which was devoted to render places of public entertainment safe for the public, there still remained the human element to control, and the risk of panic. The audience should have confidence in the building, and know that everything possible had been done for their safety, and that in any circumstances there was no need to take panic or alarm. It was desirable to familiarise them with all exits, so that they had knowledge of egress other than by the way they entered. The system in some American cities of numbering the exits and printing on the programmes plans of the floors and tiers showing the exits was a step in this direction, for if even only a few members of the audience studied the plans they would, if an emergency arise, be able to guide sections of the audience away from the building. Plans of the building placed in the foyers, or other public places, showing the exits and surrounding streets, might also be of advantage.

Finally, the more simple the planning and design of the building so that the public could easily grasp and understand their way about, the less risk there would be of panic or alarm.

The lecture was illustrated by fifty-five lantern slides showing various theatre, cinema and exhibition buildings.

SOCIETIES AND INSTITUTIONS

BRIDGE AND STRUCTURAL ENGINEERS.

At a meeting of the recently formed National Federation of Bridge and Structural Engineers held at Artillery House, Westminster, the various economic problems facing the industry were discussed, including fair terms and conditions of contracts with public authorities. A sub-committee was appointed to consider tariff proposals.

SOUTH WALES ARCHITECTS AND BUILDERS.

Under the auspices of the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch), a lantern lecture on "Modern Sculpture" was given in the lecture theatre of the Engineers' Institute, Cardiff, on Thursday, November 12, by Mr. W. Aumonier, Vice-President of the Master Carvers' Association, Mr. J. E. Turner, J.P., presiding over a large attendance.

The lecturer dealt with modern sculpture not only in America and Great Britain, but also in Norway, Denmark, Sweden, Holland, Germany, Austria, France, Czecho-Slovakia, and Yugo-Slavia, and referred to a number of the more extreme examples which have been so much discussed in recent times, including Epstein's "Genesis." He suggested that the public should not condemn experiment in sculpture without careful thought, and explained that while modernist examples naturally varied in type and quality, many of them were undoubtedly the result of a genuine effort on the part of able sculptors to express themselves more fully than they found possible on traditional lines. He drew attention, however, to the great importance of a full and scholarly training on traditional lines as a necessary preliminary to later efforts in whatever direction these might develop. A vote of thanks to the lecturer was proposed by Mr. J. Herbert Jones, F.R.I.B.A., President of the South Wales Institute of Architects, seconded by Mr. W. S. Purchon, and carried with acclamation.

SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS.

A meeting arranged by the Society for the Protection of Ancient Buildings (Windmill Section) has been held at Harewoods, Outwood, near Redhill, the residence of Mr. Theodore Lloyd, when an appeal was arranged in an effort to preserve what is claimed to be England's oldest windmill. Mr. Lloyd produced the original deed relating to the building of the mill in 1665.

Mr. Hilaire Belloc said it was as much the civic duty of those who valued this country and its possessions to preserve its windmills and other old landmarks as to preserve its own literature and works of art. This was not a readily accepted view, for the reason that windmills were not economic propositions, and were highly perishable. His own mill in Sussex, at Shipley, called for a tax of £16 a year, while repairs which followed a storm two years ago cost £200. He paid that amount as he would pay for the restoration of a picture, regarding the mill as an important though unremunerative amenity. Could the windmill be restarted as an institution? He would be deceiving his audience if he were to say that the windmill would take its old place in social life, but it might possibly rise from the dead. What had killed the windmill was the high capitalistic centralisation of all production in our day not only with the windmill, but with the book and the drama, and a few other things. It was just possible that the movement for using English bread and English flour might have the effect of restarting those windmills.

INTERNATIONAL ASSOCIATION FOR BRIDGE AND STRUCTURAL ENGINEERING.

At the Paris Congress of this Association, which is to take place from May 19 to 24, 1932, the following themes will be dealt with:—

1st Theme: Stability and strength of structural members subjected to compression and bending.—(1) Introductory report. (2) Question of the buckling of straight bars with non-central or transverse loading. (3) The buckling of the webs of members subjected to compression. (4) The buckling of the webs of plate girders subjected to bending.

2nd Theme: Slabs in reinforced concrete structures.—(1) Introductory report. (2) Rectangular slabs, supported on all sides. (3) "Mushroom" systems. (4) Slabs and structures with thin partitions.

3rd Theme: Welding in steel structural work.—(1) General report. (2) Strength, calculation and structural form of welded steel constructions. (3) Experience gained in practice (including economy effected). (4) Combination of riveted and welded connections.

4th Theme: Large girder bridges in reinforced concrete.

5th Theme: Dynamics of bridges.—(1) General report. (2) Apparatus for causing and for measuring vibration. (3) Calculation of the influence of moving loads on structures.

6th Theme: Development of the statics of reinforced concrete, with regard to the properties of the material used.—(1) Introductory report. (2) Elasticity and plasticity. (3) Influence of shrinkage.

7th Theme: Girders in conjunction with concrete.—(1) Introductory report. (2) Composite columns (steel supports surrounded by concrete or by reinforced concrete). (3) Girders, combined with concrete or reinforced concrete, subjected to bending.

8th Theme: Research concerning building ground.

Further details can be obtained on application to the Secretariat, International Association for Bridge and Structural Engineering, Federal Polytechnical University, Zurich, to which address applications for membership may also be made, as well as to the delegates or national organisation of the country concerned. The names and addresses of the delegates for England are: Mr. S. Bylander, 26, Old Burlington-street, London, W.1; Major R. F. Maitland, Secretary of the Institution of Structural Engineers, 10, Upper Belgrave-street, London, S.W.

REFEREES' (LANDLORD AND TENANT ACT, 1927) ASSOCIATION.

At the annual general meeting of the Referees' (Landlord and Tenant Act, 1927) Association, held on Thursday, November 5, at the Law Society's Hall, Chancery-lane, there was a very large attendance of referees. Mr. S. P. J. Merlin, chairman of the Association, presiding, pointed out that the Association had in March last unanimously adopted the report upon "The Working of the Landlord and Tenant Act, 1927," drawn up by their hon. secretary, Mr L. G. H. Horton-Smith. That had been published in the following May, and one of the legal papers had stated in terms that "the author by his drafting of the report and the Referees' Association by unanimously adopting and issuing it had performed a valuable public service." The Association, he said, must continue in its endeavour to be of use to the public, for whose interests alone it existed. And yet at every turn the referees found themselves confronted with the difficulty that the Act provided no scheme upon which the compensation for goodwill thereby accorded was to be calculated. In those circumstances the committee of the association had considered it desirable that the referees should endeavour to work out some uniform scheme for themselves, within the Act, with especial reference to the "Capitalisation of Goodwill," whereunder each and all of them, when sitting as referees, might work upon some common basis of principle. To that end they had invited one of their number, Mr. J. George Head, F.S.I., on account of his wide experience alike as a valuer and as a referee, and with whose opinions they were already in general agreement, to draft a scheme for the consideration of the association, with a view (if agreed) to its general adoption by them all.

Mr. J. G. Head, at the outset of his address, pointed out that the establishment, if possible, of a definite scientific basis whereon the necessary calculations for the purposes of the Act should in each case be made was an urgent and indeed a vital need of to-day, in the interests not only of the referees but also of that vast public throughout the land already affected or to be affected by the provisions of the Act. The paper which he proceeded to read to the meeting travelled over both "Compensation for Goodwill," under Section 4 of the Act, and the proper length of term in connection with "New Leases," under Section 5. Nor did it fail to give due consideration to "Compensation for Improvements" under the earlier sections of the Act. The lecturer said he had found himself able, he thought, to reduce the first to an almost absolute science. There had been a diversity of methods of calculation of compensation put before him in his capacity of referee. These had led, on examination, to such incongruous results that it was obvious that they could not all be right; and yet it was equally obvious that the public should be enabled to feel that, whoever the referee, he would at least be guiding himself by the same principle as his brother referees. The lecturer then dealt with such various methods of calculation for compensation, showing (with tables) the varying results obtained therefrom, and then explained the fallacies underlying all save the one which, after fullest consideration, he ventured to commend to the association for adoption.

With regard to the length of term for "new leases," so much discretion was left to the tribunal by the Act that he felt it difficult to reduce this matter to any strict scientific basis, though it was possible to say that the new lease must at least be of a term not less than would suffice to enable the tenant to earn in continued occupation of the premises the statutory compensation to which (had he sought it) he would have been entitled under Section 4, leaving the tribunal to extend the term beyond that to the utmost that in its discretion seemed right in the circumstances of each case, subject always to the statutory maximum of fourteen years.

A discussion ensued, and finally it was moved by Mr. J. A. Weir-Johnston, seconded by Mr. S. Carlile Davis, of Plymouth, and unanimously carried, that, subject to an addition suggested by Mr. Edgar Foa in reference to new leases, Mr. Head's address be printed and a copy presented to every member of the Association, for the general convenience and assistance of all.

Mr. Dendy Watney, P.P.S.I., the honorary treasurer, presented the accounts of the year, which were duly passed. The Association, he said, was doing a great deal of useful public work, and could do more did funds but allow.

The Chairman, in conclusion, stated that the Association's suggestions for amendments of the County Court Rules under the Act were now before the Rules Committee, adding that the Association would soon be called upon to suggest necessary amendments of the Act. To that end he asked all members to send any suggestions for that purpose to the hon. secretary, Mr. L. G. H. Horton-Smith, at 4, Paper Buildings, Temple, E.C.4.

The officers and other nine members of the committee of management for the ensuing year were then re-elected as follows: Chairman, Mr. S. P. J. Merlin, barrister; hon. secretary, Mr. L. G. H. Horton-Smith, barrister; hon. treasurer, Mr. Dendy Watney, P.P.S.I. Committee: Mr. J. A. K. Ferne, solicitor (Stockport); Mr. Edgar Foa, barrister; Mr. J. George Head, F.S.I.; Mr. L. S. Holmes, solicitor (Liverpool); Mr. E. H. Leeder, F.S.I. (Swansea); Mr. G. C. R. Marshall, solicitor; Sir Edwin Savill, O.B.E., P.P.S.I.; Mr. Percival F. Tuckett, F.S.I.; and Mr. J. A. Weir-Johnston, barrister.

"CONTRACTS"

A LECTURE on this subject was delivered before the London branch of the Incorporated Association of Architects and Surveyors at 1, Wilbraham-place, S.W.1, recently, the lecturer being Mr. W. T. Creswell, barrister-at-law. Mr. A. E. Mander, chairman of the Branch, presided.

The lecturer said he had better, before dealing more particularly with building contracts, say something about contracts generally. A contract, of course, is a right, against persons created by their own voluntary acts or omissions. The fact that one person possessed a right imposed on others a duty not to violate that right. If one person had entered into a contract with another it was the former's duty to perform his part of it. If he neglected to do so, and, in fact, failed to perform his part of it—in other words, if he did what was called "breaking a contract"—there was a breach of the contract which might violate the other's right, thereby neglecting his duty and doing something which caused the other damage. In that case the injured party had a right of action, and the right of action generally was for breach of the contract. But, of course, to be entitled to bring an action for breach of a contract, the injured party must be a party to it, or must at least be an assignee of one of the original parties to it.

If two people made an agreement, then that was something which the State would enforce. There were two essentials of every contract which were probably the most important. First of all, that both parties should mean and agree to the same thing. It often happened that one of the parties was able to prove that when the contract was entered into he did not mean, and did not understand, what the contract in fact said. The law said that everybody was expected to understand the law, and that a written and signed contract was something signed by the parties with their eyes open.

Another matter to which attention might usefully be drawn was, that conduct played a very great part in the formation of contracts, especially in the formation of contracts for extra works over and beyond works contemplated in a building contract. These were in many instances new contracts. Most building contracts provided for extras, though not all. But what were extras? He would give an example. Take a contract to build a house. The contract might entitle the architect to order extras in connection with the building of that house, i.e., to do certain things. But that did not entitle him to order a garage as an extra. If he did, it was a new contract. Many architects thought they were entitled to give an order for anything as, and by way of, an extra.

There was just a word or two to be said about the offer. There must first be an offer to every contract. It might be made orally or, of course, it might be made in writing, but the offer must be communicated. An invitation to tender for a limited or open competition was, of course, not an offer. The invitation was an offer to negotiate, to barter, to bargain, to chaffer. It was nothing more than that. The offer was the tender actually received in the case of a building contract. With regard to the words which sometimes appeared on an invitation to tender, something to the effect that the lowest or any tender would not necessarily be accepted, well, there was no harm in putting them in, but there was no necessity for them being there. Because before there was any question of a contract being fixed up between two parties, there must be an acceptance of the offer, and that acceptance of the offer must be communicated to the offeror. There was one important point about that which architects should always remember, because they, as agents, were often able to accept a tender; not always, of course, but they might be put in that position. When they did accept, their acceptance must be communicated, but in accepting it they must not introduce any new terms into their acceptance, no new terms whatsoever. It had to be remembered that when a tender was received, when an offer was received, the offeror had the right to revoke it right up to the time of acceptance. If the acceptor could prove that he had posted a letter of acceptance, that proof did not help him in the slightest if he introduced a new term into the acceptance. By so doing he put himself into the position of the offeror. The contractor who tendered was in the position to say "No, I will not go on with this, I will not be bound by my offer because you have introduced a new term into it." And the question for him was whether he should now be the acceptor.

A contract was more important than one at first imagined, because it was something which the State would enforce. But the State was not quite content to leave the matter where he, the lecturer, had left it. Some contracts required certain other essentials to them to make them binding, and one of the most important essentials was, that there must be something in the nature of a consideration. The consideration itself might be quite an inadequate consideration, but it must be there. There was one famous case, and the parties in the case might be called A and B. A, on behalf of his principal, gave to B "the first refusal" of the sale of the house. B was allowed something like seven days in which to make up his mind about it, and before the seventh day B discovered that A had sold it, that was to say, sold the house to someone else. Hearing of the sale, B posted a letter of acceptance and then brought an action for "specific performance of the contract," but he did not succeed, because there was no consideration mentioned in the "first refusal" which B relied on.

The consideration must always be present in a simple contract. There need not be any consideration present when the contract is by deed. There were two further essentials to some contracts. There must be something written or the contract must be by deed. An instance was where there was a sale of an interest in land. It was not always easy to say whether a building contract was an interest in land, but if there was an interest in land included in it, then there must be something in writing. That requirement had existed since the time when the Statute of Frauds came into force, and it was re-enacted in the Law of Property Act of 1925.

Architects needed assistance more often than might be thought. Many thought they did not work under a contract at all until they needed assistance in the recovery of their fees, when they must, of course, prove a contract. Unfortunately, in recovering their fees they were often met with a counter-claim for damages for negligence. Negligence was, quite shortly put, doing something that ought not to have been done, or not doing something which ought to have been done. Many architects thought it was only in respect of things that they had done they were to be held liable for negligence. They thought of the acts of commission rather than of omission. An architect could never be hit for negligence if he could show he had used the usual care, skill and diligence, and had acted honestly and as was expected of a man who called himself an architect and surveyor. He was not called upon to show any particular expert skill over and above what was usual in the profession. What he had to ask himself was: "Have I dealt with this work as I would conduct my own business?"

It had to be remembered that if the architect wished to claim fees not previously agreed, he was only entitled to claim what were reasonable. There was no law which laid down in such instances that the architect was entitled to any particular scale of fees, and his (the lecturer's) advice was to fix up a contract before commencing, and so know exactly where one stood. Otherwise one would have to be satisfied with a claim made on the basis of a *quantum meruit*.

Some contracts must be under seal. For instance, a corporation, unless it was a company under the Companies Act, 1929, could only contract under seal, except for matters of everyday occurrence or urgent necessity. A case in point was Nixon against the Erith Urban District Council in 1924. Under the Public Health Act of 1875 an urban authority must contract under seal when over £50. Nixon, a quantity surveyor, did work for the Erith Urban District Council: the question of the amount of the fees was not in dispute. The architect had agreed them, but the authorities simply pleaded the section on Nixon bringing an action to recover his fees. He did not succeed. He went to the Appeal Court, but there again he failed, simply because Nixon had not a contract under seal with the Erith Urban District Council, although he had done the work and they got the benefit of it.

There must be the capacity to contract. Obviously that brought in infants, lunatics and drunkards, and so on. An infant, of course, could not contract unless it was for necessaries. There were, of course, contracts which were illegal, and there were other kinds of contracts, contracts which were entered into under violence or duress, such as where some violence was used to make a party sign. Of course, those were contracts which were voidable, and there were contracts, too, that were obtained by undue influence, and there were more of those contracts than one imagined: they were also voidable.

Worthy of attention were two other kinds of contracts. One was a contract which was entered into by misrepresentation on one party's side. There must be always two parties at least to a contract, and if there was misrepresentation, then, of course, that was a contract which was voidable by the other party to it if he wished. On the other hand he could keep the party, who made the misrepresentation, to the contract. With regard to misrepresentation it was just as well to have a homely definition of it: it was really an innocent statement of what was untrue. Another kind of contract which was sometimes entered into was one which was fraudulent. Fraud was often pleaded in contracts. But one had to be very careful about pleading fraud. Fraud was a wilful statement of what was untrue or a fraudulent concealment of the truth. Generally speaking, where there was fraud, the contract could be rescinded; and usually the party who had been defrauded, if fraud is proved, could claim damages; not always, but, generally speaking, it was so. An architect did not, he hoped, commit fraud, but it was curious that in some instances it was necessary for a contractor to show that there was fraud if he, the architect, failed to certify. There was a case on the particular point. It was the case of Kellett against the New Mills Urban District Council in 1900. In a building contract the architect's certificate was a condition precedent to payment to the builder, and the architect had not addressed himself to the matter at all, and would not certify. There was no fraud alleged, but the Court gave in favour of the contractor, and that he could recover without a certificate finding in effect that there was fraud on the part of the architect in not certifying.

The usual and happy way for a contract to end was by its being performed; and then, of course, it was discharged. There could be a discharge of the contract by mutual agreement of the parties. It was quite possible also that a contract was impossible of performance. Unless the parties could agree about that the only place one could get the matter decided (unless there was an arbitration clause) was by going to the Court. When one was dealing with disputes in building contracts one could not go in every instance to the Court. Many

architects and builders thought they could. But an arbitration clause generally stopped them going to the Court. Read the contract! Many architects and builders did not read the contract. Once forms of contracts (such as the R.I.B.A. form) were settled it was not wise to alter them without legal assistance. If one struck out anything, the Court always assumed that one knew what one was doing. If one put something there in ink, in construing it, the Court would look with favour on what had been put in, in ink. We knew that the law in respect to building contracts was that all the documents forming part of the contract should be construed together. The law was plain; where bills of quantities formed part of the contract (on the authority of Patman and Fotheringham *v.* Pilditch in 1904) they represented what the contractor had contracted to do, and one could call upon him to do no more. Whereas if there were no bills of quantities in the contract, then it became a question of what was in the minds of the parties at the outset. Architects were well aware that there were very few specifications or drawings or any documents of a building contract which gave sufficient detailed information to a contractor. Nevertheless, if bills of quantities did not form part of the contract the contractors could be called upon to do what was originally contemplated by the parties so as to finish the contract work.

LANDLORD AND TENANT ACT

IMPROVEMENTS AND CONSENT.

An important decision under the Landlord and Tenant Act, 1927, has been delivered in the recent case Balls Bros., Ltd., *v.* Sinclair (*Weekly Notes*, May 30). By a lease dated April 2, 1930, the plaintiffs had leased certain shop premises to the defendants for 21 years from March 25, 1930. As far as can be gathered from the present brief report, before and after the defendants had taken possession negotiations had taken place between the parties as to certain works the defendants desired to carry out, including the erection of a new shop front, but the plaintiffs had not approved these proposals, and in the absence of approval the works had been executed by the defendant, but at some subsequent date the defendants wishing to underlet part of the premises, which consisted of a shop and the first floor above it and the first floor above other adjoining shop premises, and to make certain structural alterations therein, applied to the plaintiffs for a licence, which was refused after certain terms had been discussed between the parties but not agreed to, and as the defendants threatened to carry out the alteration without consent the plaintiffs had taken these proceedings to obtain an injunction.

The point for decision was whether section 19, sub-section (2) of the Act applied to the case, that is to say, whether a term must be implied that the consent shall not unreasonably be withheld. The sub-section provides: "In all leases whether made before or after the commencement of this Act containing a covenant or condition or agreement against the making of improvements without licence or consent, such covenant, etc., shall be deemed notwithstanding any express condition to the contrary to be subject to a proviso that such licence or consent is not to be unreasonably withheld; but this proviso does not preclude the right to require as a condition of such licence or consent the payment of a reasonable sum in respect of any damage or diminution in the value of the premises, or any neighbouring premises belonging to the landlord, and of any legal or other expenses properly incurred in connection with such licence or consent, nor in the case of an improvement which does not add to the letting value of the holding, does it preclude the right to require as a condition of such licence or consent where such requirement would be reasonable, an undertaking on the part of the tenant to reinstate the premises in the condition in which they were before the improvement was executed."

The lease contained a covenant by the defendants not to make any addition or alteration to the premises (save certain specified alterations or additions), except such as might be authorised from time to time by writing, nor to cut, maim or injure any of the walls or timbers, and there was also a covenant not to assign or underlet without written consent.

The court, in giving judgment, said that alterations and additions included improvements, and the question whether a particular alteration effected an improvement was a question of fact (Lilley and Skinner *v.* Crump (1929, 73), "Solicitors' Journal," 366), and if it was found as a fact that the alteration was an improvement, then to that extent the covenant would come within section 19, sub-section (2), and thus it must be read as providing that consent would not be withheld unreasonably. Then the court considered what was the point of view to be assumed on the question whether an alteration constituted an improvement. Was it from that of the landlord, or that of the tenant, or of both? The court held that the answer to this question was contained in the sub-section itself, for it had been proved that so far as the tenant was concerned it was an improvement, and though from the landlord's point of view it was not, under the sub-section the latter was amply protected, as he could take an undertaking from the tenant to reinstate at the end of the term.

The court further intimated that in its opinion it was not incumbent upon the tenant to point out to the landlord that what he (the tenant) proposed to do was an improvement nor to call attention to the Act; the landlord must be presumed to have known of it. Nor was it necessary for the tenant to make an offer to reinstate. The court held the consent in this case to have been unreasonably withheld, and that the alteration could in fact have been made without any further application to the plaintiffs, and the claim of the plaintiffs failed.

It may be well to call attention here to section 3 of the Act, which provides machinery whereby tenants of business premises, as defined in section 17, who desire to make improvements on the premises can take steps to get the improvement certified by the tribunal if satisfied that the improvement "is of such a nature as to be calculated to add to the letting value of the holding at the termination of the tenancy and is reasonable to the character thereof and will not diminish the value of any other property belonging to the same owner," and also that, when notice under this section has been served on the landlord and he does not lodge an objection within the specified time, it is lawful for the tenant to execute the improvement according to the plans served on the landlord and he may call upon the landlord to furnish a certificate that the improvement has been duly executed. The distinctions between this section and section 19 are that whereas section 3 occurs in Part I. and applies only to business premises, and premises used for professional purposes, section 19 occurs in Part II. and is general in its application, except for leases of agricultural holdings; that the nature of the improvement is more precisely prescribed in section 3, whereas under section 19 the consideration is whether or not the refusal to license or consent has under the circumstances of the case been unreasonably withheld; but lastly, and this is far the most important distinction, that if the procedure provided in section 3 is adopted, then a claim can be made in respect of the improvement, whereas, as is shown by the section itself, this is not the case under section 19, sub-section (2).

OBITUARY

At Monday evening's meeting of the R.I.B.A. the Hon. Secretary announced with deep regret the death of the following members:

H. W. Chatters, Fellow, 1902, transferred to class of Honorary Associates, 1919.

M. Latham, LL.D., Mus.B., D.L., J.P., Honorary Associate, 1885.

Sir William Orpen, R.A., Honorary Associate, 1930. (Four of the R.I.B.A. Presidential portraits were painted by Sir William Orpen.)

Sir William Portal, Bart., Honorary Associate, 1914. (Sir William Portal was the first President of the Hampshire and Isle of Wight Architectural Association, and held that position from 1912 to 1927.)

J. W. Beaumont, Fellow, 1891. (Mr. Beaumont was a Past-President of the Manchester Society of Architects, and represented that body on the R.I.B.A. Council from 1903 to 1905.)

W. Talbot Brown, Fellow, 1927 (Pugin Student, 1877).

Professor W. R. Lethaby, Fellow from 1906 to 1923. Soane Medallist, 1879, Pugin Student, 1881, member of R.I.B.A. Council from 1917 to 1920, and for many years a member of the R.I.B.A. Board of Architectural Education.

A. V. Rooke, Fellow, 1928.

H. A. Whitburn, Fellow, 1921.

S. F. Hynes, Fellow, 1888, transferred to Retired Fellowship, 1929.

Frank Peck, Fellow, 1915, transferred to Retired Fellowship, 1930.

Stephen Shaw, Fellow, 1890, transferred to Retired Fellowship, 1921.

J. McCurrey Cable, Associate, 1890.

W. T. Conner, Associate, 1891.

C. P. Kimber, Associate, 1926.

E. Scott-Nicholson, Associate from 1897 to 1900 and reinstated 1929.

S. F. E. Soper, Associate, 1931.

J. White, Associate, 1893.

E. H. Selby, Associate, 1887, transferred to Retired Associateship 1931.

R. G. Bare, transferred to Licentiate class, 1925.

W. H. Bulloch, Licentiate, 1910.

J. G. Crone, Licentiate, 1911.

E. S. Curram, transferred to Licentiate class, 1925.

T. H. Dobson, Licentiate, 1911.

H. W. Gilbert, Licentiate, 1931.

J. Love, transferred to Licentiate class, 1925.

J. A. Payne, Licentiate, 1910.

A. F. Wicksteed, Licentiate, 1912.

J. H. Renton, Subscriber, 1927.

The Hon. Secretary moved that the regrets of the Institute for their loss be entered on the minutes, and that a message of sympathy and condolence be conveyed to their relatives.

A. V. Rooke, F.R.I.B.A.

We regret to record the death at Plymouth, at the age of 61, of Mr. Albert Victor Rooke. Mr. Rooke, who was the son of Mr. R. B. Rooke, of Plymouth, served his articles with Mr. Henry Snell, and on his principal's retirement took over the practice, in partnership with Mr. Thornely. The practice was continued under the title of Thornely and Rooke until seven years ago, when Mr. Thornely removed to Liverpool, since when Mr. Rooke had continued it himself. His name was associated with many of the principal buildings of the city. The firm was responsible for the plans of the Plymouth public library and museum, and Mr. Rooke was associated in the design of the new Coburg-street schools and prepared the plans for the new Education Offices.

The L.C.C. Chairmanship.

The Municipal Reform Party has nominated Mr. Angus N. Scott, chairman of the Finance Committee, for the chairmanship of the London County Council next year, and Dame Beatrix Lyall for the vice-chairmanship.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?

We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Dilapidations.

SIR,—Is there any authority or case which defines the word "structure" when mentioned in repairing covenants of leases? In a case in question, the covenant is "at all times during the said term—well and sufficiently repair amend paint, etc.—except the main walls, roof and structure." The lessors claim for repairs to floorboarding which will evidently mean an entirely new floor is required in one instance. The lessee considers floorboarding a part of the "structure." Which interpretation is the correct one, and what is the authority relating to the point?

READERS.

[There is no general statutory definition of "structure" and, indeed, no definition can be given. The point raised is one on which legal opinion should be taken. It is a question to be decided with a knowledge of the facts.—ED.]

Hot Water Geysers.

SIR,—I wonder whether any of your readers could give particulars of a satisfactory make of geyser for which replacements can be obtained, at reasonable prices, of the one or two vital portions which suffer such rapid destruction by direct action of gas, causing a breakdown long before there is any appreciable deterioration of the greater and more expensive part of the apparatus. I believe most, if not all, the well-known English makes on the market are constructed (designedly I have no doubt) in such a way that repairs cannot be effected except at the works of the makers, and most of your readers will be familiar with the "Hobson's choice" with which one is confronted when, before long, the question of repairs has to be faced—dispatch to the works and, after a delay of perhaps 10 days or longer, an estimate for repairs usually in excess of two-thirds of the original cost of the geyser; the only alternative to acceptance, and weeks of further delay, being to purchase a new one.

I submit that it would be greatly to the advantage of both makers and users if the familiar sealed mystery type of apparatus gave place to one built of standardised parts designed to be capable of being taken to pieces and reassembled on the owner's premises. An article on these lines would be eminently suitable for mass production; should be cheaper, and defects could be remedied by any skilled fitter at a few hours' notice. If there is anything of the kind at present obtainable I feel sure many of your readers would be glad to hear of it, but am afraid there is not, and my hope in writing this letter is that it may stir up some progressive firm to lead the way in the desired direction. They need have no fears as to the results if they hasten the day when many thousands of users of this most useful and necessary item of household equipment will be spared much needless expense and exasperation that they have been caused for many years past under the existing out-of-date practice. I suggest that it is a matter in which the British Commercial Gas Association might take an interest to the advantage of its members.

LONDON COUNTY.

Preparing Elm for Exhibition.

SIR,—We have some cross-sections of very large elm trees to prepare for exhibiting in a museum. These have been carefully cleaned off, and we propose twice sizing and varnishing, but shall be pleased to learn if there is any other method of carrying out such work.

P. A. W.

Maintenance Question.

SIR,—I should be glad to have opinions on the following points:—The specification of a house which has been built for a certain council stipulates that the contractor is to maintain the building and make good any defects that may arise for a period of 12 months after completion. During this maintenance period several tiles have been blown off the roof and the contractor is not inclined to replace these free of charge, as he does not consider this to be due to defects of material or workmanship. It is contended by the architect that if the tiles had been properly fixed they would not have blown off, and he is holding the contractor responsible for making good.

STUDENT.

ANSWERS.

An Architect's Difficulty.

[ANSWER TO "ANOTHER ARCHITECT," NOVEMBER 13.]

SIR,—I quite agree that the public should be informed that it is in their interests to go to an architect direct, and have advocated very strongly a publicity campaign to do this. On the other hand, many people go to builders direct, thinking this is the proper course to take. Many decent builders are anxious to introduce clients to an architect, and they naturally expect to get something out of it. Is it not a means of architects getting into touch with the general public? Again, there are many who cannot afford the full services of an architect. Are not the public both æsthetically and practically better served even if only plans are prepared by an architect? At any rate, an architect should neither favour the client nor the builder. Is not this a fine opportunity, and one which has increasing possibilities of showing the real service of the architect?

A.R.I.B.A., BIRMINGHAM.

Contract Question.

[ANSWERS TO "ARCHITECT," NOVEMBER 13.]

SIR,—Although the nature of a contract may be so changed by additions to and omissions from it that it becomes totally different from its original meaning, the contract cannot be ignored. It still remains the basis of the work until such time as it is cancelled by mutual consent of the employer and the contractor. The best way to deal with a much-altered contract is to treat additions and omissions quite separately from such contract, and adjust any total addition or deduction at the final settlement, usually at schedule rates as set out in the main contract and bill of quantities.

R. H. W.

SIR,—It is not permissible to ignore the contract, but variations should be priced on the same basis as contract. The usual procedure is the preparation of the accounts by a quantity surveyor with experience in pricing and agreeing final accounts with the contractor.

F. S. I.

SIR,—If the work referred to is not supplementary to the work originally contemplated, and is entirely outside the scope of it, as appears, then a new contract is set up altogether. A settlement would have to take place on the basis of what is in fact a reasonable price for the work done—not necessarily on a prime cost plus percentage basis, though this last might be agreed to.

CONTRACT.

Crazing of Stucco.

[ANSWER TO "W. L.," OCTOBER 30.]

SIR,—This question opens up a subject of very wide interest; but beyond suggesting that in this instance the trouble may be due to an over-rich mixture and/or want of protection and attention during the curing stage, I do not propose to deal with it now. On a recent visit to the Building Research Station I was given what I believe to be a very valuable receipt. In regard to a certain building constructed of concrete I was told that the outer walls had some years ago shown a good deal of crazing, and they had been treated with a wash made up and applied as follows:—Take one part of ferrocrete and one part of hydrated lime; pass several times through a fine sieve to obtain thorough admixture; place in a suitable vessel and add water to bring to a stiff paste, and apply with a grass brush, keeping the mixture well stirred. The results on the building shown to me were very solid and lasting, and had I not been informed I do not think I should have noticed that the building had received treatment.

J. R. TAYLOR.

THE NEW FORM OF BUILDING CONTRACT:

EXPLAINED AND ANNOTATED.—XXV.

BY W. T. CRESWELL, Barrister-at-Law, Hon. A.R.I.B.A., A.S.I.

THE CONDITIONS (*continued*).

Clause 26: Arbitration (*continued*).

WE referred, in our last article, more particularly to the alternative clause (B). The alternative (A) is a new clause; and although it is modelled, in great measure, on clause 31 of the 1928 form of contract, very little is known of the use of this last-mentioned form in practice.

In effect clause (A) provides for every dispute which can arise under the building contract being determined by arbitration if the contractor so desires. But the architect's written decision thereon (a decision which is, in all instances, binding on the employer) must first be obtained. The contractor has 14 days, after receipt of such decision, within which to dispute it.

Service of a notice of such dispute within the said period of 14 days is to count as a notice on the employer for arbitration, and thereafter the matter is to be referred to the arbitrator appointed, in the manner prescribed in the clause.

The reference is not to be commenced (except as to any question regarding a certificate) until after the completion or alleged completion of the works—unless with the written consent of the architect and the contractor.

It is in this manner that the contractor has an ever ready remedy in his hands for securing redress by arbitration; but he must give the proper written notice, and within the prescribed time, or he will lose his rights, and the architect's decision will hold good. The contractor will then be bound by the decision unless of course it could be shown that the architect, in giving it, had acted improperly (see Article XXIV).

Architects do not like clause (A). They prefer (B). (A) removes from their powers all those matters with regard to which under (B) their word is final.

In concluding this short series of articles we again refer to the memorandum for the guidance of members of the R.I.B.A., of July 11, 1931. Amongst other things it says "the new form of contract is intended to provide the basis for equitable and reasonable agreement between a building employer and a contractor. It must be remembered that the satisfactory completion of any undertaking depends more upon the mutual confidence and understanding of the parties concerned than upon any form of words in a contract." We endorse this somewhat Utopian guidance, but knowing, however, that no settled form of contract has the same force as an Act of Parliament, and that it is when disputes arise that one or other of the parties is generally unreasonable, we have throughout these articles had in mind that all clauses of a contract must be construed together in determining what in fact were the intentions of the parties to it. Further, that a contract is an agreement which is enforceable at law between two definite parties directly creating an obligation. Its true meaning will no doubt be determined in the Courts as occasion arises.

(*Concluded.*)

THE BUILDING TRADE

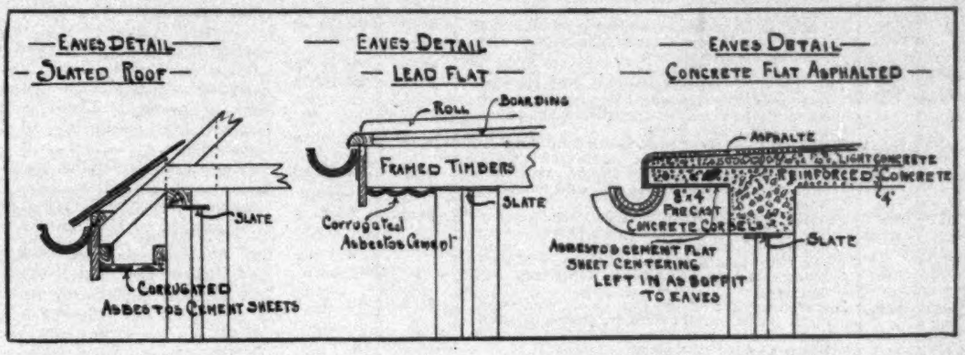
ESTIMATING: SOME HINTS AND DATA.—XXI

By J. R. TAYLOR.

COMPARATIVE ESTIMATES.

To form anything like an accurate estimate on broad lines of the comparable costs of flat and pitched roofing it is first necessary to set reasonable limits. For instance, it can be quite easily ascertained that it is cheaper to roof a block of four cottages with ordinary slates pitched at, say, 37½ than to cover them with a flat roof of four cottages having a frontage of 74 ft. below eaves and a depth of 23 ft., and that we are to give competitive estimates for slate as against concrete roofs. The following bills would be much more fully written up by the surveyor, but are here condensed to save space. The notation is in a form frequently used in the provinces and the pricing would vary in different districts. It is on the low side throughout, as is generally found to be the case when building cottages.

[Mr. Harold H. Ridge, of Brighton, is thanked for drawing attention to an error which crept into Article XVII, page 676, col. 3. Items numbers 2 and 3, counting upwards from the bottom of the column, valuing building up jambs to openings, are billed at yards super but priced at feet super. The items should, of course, read "feet super." Will interested readers please correct their copies.—J. R. T.]



finished with 6 lb. lead. But to add a slated spire to a church tower might cost many times as much as to cover in with a flat roof even though 8 lb. lead were used.

Apart from all questions of appearance, the chief merit of slates or plain tiles as a roof covering is that when they are assembled they are sufficiently yielding to respond to slight movements in the structure without much loss of weather resistance. Lead when properly laid possesses the same quality. When the final covering is to be put on timber this is a matter of first-rate importance, because even though the timbers have been properly seasoned there is always some later movement due to its exposure during the period of building, and some shrinkage must take place as the building dries out. And really seasoned timber is now but rarely used in carcassing, and, consequently, the amount of movement is not inconsiderable.

There are, however, many other ways of forming a flat roof besides that of timber covered with lead, and in these days one of ever-growing importance is concrete. On small roofs dense concrete has been in certain cases found to answer very well without any addition such as asphalt, and particularly so when ample fall has prevented any collection of rainwater on the top surface. For concrete roofs it is important that every precaution be taken to ensure rigidity in the structure below, which in turn implies that preparation must be made at the foundations. Owing to neglect to carry foundations to a sufficient depth it is well known to all builders doing repair work that a high proportion of small houses suffer from unequal settlement. When used for outbuildings, garages and the like, concrete roofs have often given trouble, and are not so much trusted without a supplementary covering. The investigations as to the behaviour of reinforced concrete made at the Building Research Station point to other causes of partial failure that need not be now dealt with.

With a pitched roof the increased height of brickwork in party and division walls has an effect on cost. Similarly, with flat roofs parapet walls expensively coped may have to appear in an estimate. But as a believer in the great value of projecting eaves in giving shelter to the work below, I have in the comparative estimates that follow taken up for eaves as detailed in sketches. It is assumed that we are to roof a block

ESTIMATES FOR A SLATED ROOF.

NOTE.—Projections of chimney above roof line are not taken and they are assumed to be equal in both estimates.

Yds.	Ft.	No.			s.	d.	£	s.	d.
41	–	–	Sup.	9-in. common brickwork in lime mortar ...	10	0	20	10	0
–	191	–	Lin.	Cutting and waste on beamfilling 9-in. walls ...	0	6	4	15	6
–	70	–	Lin.	Raking cutting and waste 9-in. walls ...	0	4	1	3	4
–	198	–	Cube	Brickwork in chimney breasts measured solid	1	6	14	17	0
–	120	–	Lin.	Form and parge flues, brickwork not deducted	0	4	2	0	0
–	194	–	Lin.	4½ in. by 3 in. creosoted wall plate and bed...	0	4	3	4	6
–	24	–	Lin.	1 in. by ¼ in. galvanised iron ties to last in twelve lengths.	0	6	0	12	0
–	1,564	–	Lin.	4 in. by 2 in. ceiling joists and hangers and fix	0	2½	17	18	5
–	84	–	Lin.	11 in. by 2 in. hip rafters and fix	1	0	4	4	0
–	84	–	Lin.	5 in. by 2 in. spiked to top of last	0	4	1	8	0
–	–	4	No.	Ends of hips cut and framed to ridge ...	1	3	0	5	0
–	–	4	No.	Ditto., to dragon ties and fascia	1	9	0	7	0
–	16	–	Lin.	4½ in. by 3 in. creosoted and fixed in four dragon ties.	0	8	0	10	8
–	156	–	Lin.	11 in. by 3 in. purlins and fix	1	4½	10	14	6
–	160	–	Lin.	9 in. by 3 in. ditto.	1	0	8	0	0
–	–	16	No.	Ends of purlins spiked to hips	0	9	0	12	0
–	–	24	No.	Ditto, built in walls	0	6	0	12	0
–	48	–	Lin.	7 in. by 1½ in. ridge and fix	0	6	1	4	0
–	1,920	–	Lin.	4 in. by 2 in. rafters and fix	0	2½	22	0	0
–	94	–	Lin.	Ends of last splay cut at ridge	0	1½	0	11	9
–	336	–	Lin.	Ditto, at hips	0	2	2	16	0
–	202	–	Lin.	Ditto, notched at wall plate and cut at fascia	0	3	2	10	6
–	–	4	No.	Extra labour trimming ceiling joist at chimney breasts.	2	6	0	10	0
–	–	4	No.	Ditto, and provide and fix doors and casings, etc., etc., for access to roof space.	12	6	2	10	0
–	–	2	No.	Extra labour trim rafters at chimneys ...	3	6	0	7	0
–	194	–	Lin.	3 in. by 2 in. creosoted and nailed to and including breeze fixing bricks built in to carry eaves soffit as sketch.	0	4	3	4	8
–	202	–	Lin.	3 in. by 2 in. ditto, secured to fascia and to rafter feet.	0	3	2	10	6
–	6	–	Lin.	3 in. by 2 in. ditto, in four short lengths at corner mitres and add birds mouth cutting, etc.	1	0	0	6	0
–	202	–	Sup.	Corrugated asbestos roof sheets fixed to eaves soffit as detail.	0	9	7	11	6
–	–	4	No.	Add labour and waste at mitred corners ...	1	3	0	5	0
–	203	–	Lin.	9 in. by 1½ in. wrot fascia and fix	0	9	7	12	3
–	–	4	No.	Framed and mitred corners	1	0	0	4	0
–	203	–	Lin.	Shaped tilt piece two out of 3 in. by 2 in. ...	0	2	1	13	10
–	–	4	No.	Scrolled hip irons weighing 5 lb. each and fix	3	6	0	14	0
270	–	–	Sup.	Seconds Bangor countess slating, 3½ in. lap, 2 in. by ¾ in. battens, full tiered, etc. :	8	0	108	0	0
–	204	–	Lin.	E.O. eaves	0	4	3	8	0
–	164	–	Lin.	E.O. cutting and waste to hips...	0	6	4	2	0
–	28	–	Lin.	E.O. cutting at sides of chimneys	0	5	0	11	8
–	104	–	Lin.	E.O. ditto at top edges	0	3	1	6	0
–	47	–	Lin.	Ridge tile P.C. 1/6 ft. lin. and bed	2	0	4	14	0
–	84	–	Lin.	Ditto, hip tiles ditto	2	0	8	8	0
–	–	2	No.	Purpose-made three-way junctions p.c. 6s. (extra value only).	7	0	0	14	0
–	–	4	No.	Cutting and risk hip tile ends	1	0	0	4	0
–	–	3	No.	Ditto ridge tile at chimneys	0	10	0	2	6
68	–	–	Lin.	6 in. H.R. beaded c.i. gutter, ⅜ in. metal, and all fixing and jointing materials	4	0	13	12	0
–	–	4	No.	E.O. external angles	3	0	0	12	0
–	–	4	No.	E.O. nozzle pieces	3	0	0	12	0
–	–	148	No.	W.I. gutter brackets p.c. 10d. each and screws and fix.	1	1	8	0	4
150	–	–	Sup.	Lath and three coat plaster ceilings finished grey.	3	0	22	10	0
–	–	–	–	cwt. qr. lb. 1–0–0 Sheet lead in soakers, aprons and cover flashings and wedge and point. Painting not in this estimate.	38	0	1	18	0
				Say			£	336	19 7

ESTIMATES FOR A CONCRETE ROOF.

NOTE.—Concrete below ceiling level is offset by value of brickwork, but a white cement facing is taken later. See detail drawings.

Yds.	Ft.	No.			s.	d.	£	s.	d.
–	–	94	No.	Pre-cast concrete corbels to detail, 3 ft. by 8 in. by 4 in. reinforced with two ⅜ in. bent mild steel bars and tailed into concrete wall top.	5	6	25	17	0
–	–	4	No.	Ditto, ditto, but 3 ft. 3 in. long and of special pattern at corners.	10	0	2	0	0
66	–	–	Lin.	6 in. diameter concrete channel pipes (as used in drainage), bedded on brackets, and pointed in cement	6	0	20	8	0
–	–	8	No.	Cutting and risk	1	0	0	8	0
–	–	4	No.	E.O. external angles. (These could be to radius if preferred)	2	6	0	10	0
–	–	4	No.	Cut holes 3 in. diameter for outlets, insert cast brass ferrules as used for soil pipe work, and run in with cement	5	0	1	0	0
–	202	–	Sup.	Asbestos cement flat sheets, laid on corbels as formwork to concrete eaves, and left in	0	8	6	14	8
–	130	–	Sup.	Hack face and render concrete to wall below eaves in white Portland cement, supplied ready mixed with suitable sand by manufacturers	0	6	3	5	0
150	–	–	Sup.	Form work at bedroom ceiling level and coat with retarding mixture and strike and remove on completion	4	0	30	0	0
–	304	–	Lin.	6 in. ditto at eaves riser	0	3	2	11	0
217	–	–	Sup.	4 in. concrete roof slab, composed of one part ferrocrete, quarter part hydrated lime, two parts washed sand, four parts graded aggregate, ¾ in., and down	4	6	48	16	6
–	405	–	Lin.	Half inch mild steel bars, bedded in concrete eaves, as detail	0	2	3	7	6
217	–	–	Sup.	Fabric reinforcement p.c. 1s. 6d. per yard sup., bedded in concrete and add extra for laps	1	10	19	17	10
–	–	16	No.	Provide and build in 9 in. by 9 in. fireclay flue liners, where flues pass through concrete, cut fabric round same, and work concrete between them and on chimney breasts and midfeathers. Openings not deducted	4	0	3	4	0
215	–	–	Sup.	Light concrete average 8 in. thick, composed eight parts broken clinker, sufficient sand and one part cement; worked to falls and left ready for asphalter	4	6	48	7	6
216	–	–	Sup.	Two coat asphalte by approved specialist ...	6	0	64	16	0
–	204	–	Lin.	Labour and materials, to turn down at eaves, to detail	1	3	12	15	0
–	46	–	Lin.	Labour only form slight round at ridge ...	0	2	0	7	8
–	73	–	Lin.	Ditto, at hip mitre	0	2	0	12	2
–	27	–	Lin.	Skirting, average 7 in., high round chimneys (8 mitres)	1	1	1	9	3
–	–	–	–	¾ cwt sheet lead in cover flashing, to last, built in as work proceeds, and afterwards turned down over asphalte, and dressed	38	0	1	8	6
150	–	–	S up.	Render soffit of concrete ceilings two coats, specified make	1	9	13	2	6
				Say ...			£310	18	1

A lead flat with eaves, as sketch, and suitably framed in two lifts, up to bold ridge, roll and hip mitre rolls, and covered with six pounds lead on a similarly detailed bill, works up to just over £354.

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.*

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

Lightweight Concretes.

An engineering consultant inquired regarding the types of aggregates most suitable for a lightweight mass concrete capable of carrying a load of 3½ tons per sq. ft. The concrete was required for filling in bad ground, and it was desirable to keep the weight as low as possible. It was also stated that the work would be below ground-water level.

Reply.—The following materials suggest themselves for this purpose: (i) Furnace clinkers and coke breeze; (ii) pumice; (iii) blast-furnace slags; (iv) burnt clay. In addition, there are also, of course, lightweight concretes of special composition.

Of these aggregates the clinkers and breezes are probably by far the cheapest. With furnace clinkers there is a danger of obtaining unsound material, and the consequences of this with concrete under water would be likely to be serious. By careful sampling and testing, however, it should be possible to guard against unsound material, although, no doubt, this would add appreciably to the expense. With a true coke breeze, as distinguished from the various types of coal residue to which the term is often applied, there should be no serious danger of unsoundness due to the presence of unburnt coal, but danger may be expected in the event of the presence of an excessive amount of sulphur as sulphide. Concretes made of these aggregates, even if sound, are liable to a high moisture movement, and, if exposed to conditions where alternations of humidity are likely to occur, there is a danger of cracking due to volume changes. It also appears that exposure of clinker or breeze concrete to wet conditions is likely to lead to failure in an aggravated form in the event of unsound aggregates being present.

The dangers inherent in the use of clinker and breeze aggregates can be much reduced by the elimination of all fine material. By using only those fractions of the material retained on a ⅜ in. or ½ in. sieve, much of the risk of failure is removed. It is quite possible that a concrete without fine aggregate would have sufficient strength for the purpose.

Pumice aggregates are believed to be considerably more expensive than breeze or clinker aggregates. So far as is known, however, they are not likely to be unsound and should not be liable to failures of the type associated with unsound breezes and clinkers. The moisture movement of such pumice concretes as have been examined at this station is approximately double that of normal ballast concrete and comparable with that of a sound clinker concrete. Blast-furnace slags, as normally produced, are usually considered to give a lighter concrete than gravels. Figures from American sources indicate weights of about 130-140 lb. per cu. ft. for well-compacted slag concretes as against 150 lb. for comparable gravel concretes. Weights of representative coarse slag aggregates are about 70 lb. per cu. ft., against 90 lb. per cu. ft. for stone and gravel aggregates. The elimination of the finer grades would result in a considerable reduction in weight of the concrete. Granulated slags are sometimes produced by running the molten slag from the furnace into contact with water or steam. Such examples of this material as have been seen at this station tend to be rather on the fine side, but it may be possible to obtain coarser grades.

Certain types of burnt ballast and broken brick aggregates will be found to be considerably lighter than gravel aggregates, although probably not comparable with clinker or pumice. There is also to be considered the possibility of burning ballast on the site.

So far as strengths of the lighter materials are concerned, the following table summarises the information available in the records of this station:—

Concrete.	Crushing strength 1 lb. per sq. in.		Weight of concrete.
	Dry.	Wet.	1 lb. per cu. ft.
PUMICE ... ... Graded ¾ in. down Mix not stated.	490 (at about 1 month)	434	54
PUMICE. Pumice 9 ... Cement 1 ...	432 (at about 1 month)	271	56
TYPICAL CLINKER CONCRETES. ... (Partition slab)	150–500	110–450	Varies from 60–80
BURNT CLAY. 1 : 6 by weight ...	—	2,360	approx. 110

With lightweight concretes, normally of rather a porous structure, it is likely that any deleterious substances present in soil waters will have a more aggressive effect on the cement than would occur with a densely compacted concrete.

Cement-Lime Mortars.

An architect commented on the poor working qualities, or "harshness," of 1 : 6 cement mortars, and asked whether a mortar composed of a mixture of 1 : 5 cement mortar and 1 : 3 lime mortar would give better workability—that is, would be more "buttery."

Reply.—On account of the harsh working properties of very lean mixes, cement mortars extended with lime are in common use in the United States of America and on the Continent. The value of the lime addition, however, depends largely on the degree of workability of the lime used. In the United States of America extremely plastic "finishing" hydrates are, apparently, available commercially, and even a small addition of such limes improve the lean cement mixes quite appreciably. When, as is often the case in Great Britain, a dry hydrated lime is employed for the sake of convenience and simplicity in gauging and mixing, the additional plasticity obtained may be illusory, on account of the relatively low workabilities of some of the dry hydrated limes available at the moment. The use of a plastic "run" putty, well aged, should afford a comparable improvement, in spite of the greater difficulty of obtaining a uniform mix. There is, however, a tendency for operatives to look upon such gauged mortars as ordinary lime mortar or coarse stuff, to be left about indefinitely and knocked up for use again at convenience, regardless of the normal setting time of the Portland cement present, and this must be guarded against.

It is suggested that one part of Port-

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sand cement by volume be added to three parts of hydrate or run putty of ordinary stiff consistence, with as much sand as the mixture will carry for the particular job in hand, *i.e.*, a 1 : 3 : 8 or 1 : 3 : 12 mix by volume. Higher proportions of Portland cement may predispose a rendering to crazing and cracking when in large panels, and in a masons' mortar result in a degree of hardness and impermeability which is often undesirable.

Cavity Wall Construction.

The architect for a syndicate engaged in the erection of small house property required the views of the Station on a method of wall construction in which external walls are built up of two 4½ in. leaves of brickwork with 1 in. space between filled with cement mortar. The wall was to be built without through bond headers. The correspondent stated that he did not care for the normal cavity form of construction in the form of two 4½ in. walls separated by an air cavity 2 in. to 3 in. wide and bonded by metal or other ties, although he was of the opinion that an ordinary 9 in. solid brick wall does not offer really satisfactory resistance to the penetration of moisture, and that roughcast has its limitations.

Reply.—No case of the penetration of moisture through a properly designed and constructed cavity wall has ever been brought to the notice of this station, and it is considered that, with the materials at present available, the cavity wall is by far the most satisfactory form of construction for domestic dwellings. The weaknesses of the cavity wall lie in the fact that careful attention must be given to details at openings, these details must be interpreted in an intelligent manner by the operative, and supervision is necessary to ensure that the cavities are kept clean. There can, however, be no doubt that the cavity form of construction has become normal practice, and the better class of builders are sufficiently familiar with it to be able to guarantee satisfactory work.

We have not made any experiments with a wall of the type you suggest, but consider that in some respects it is open to objection. An interesting experiment on a practical scale was carried out by a local authority at our suggestion. Three houses were erected on a housing estate of identical bricks and mortar, the walls being built as follows:—

(i.) Red facing bricks backed with clinker bricks in solid 9 in. work, built with greystone lime and sand 3½ to 1, pointed with Portland cement and washed sand. All cross joints put right through, and lateral joints between stretchers thoroughly well flushed up. Plastered internally. (ii.) As above, but no flushing up of internal joints. (iii.) As above, but built as two separate 4½ in. walls, no flushing up, bonded with metal reinforcement every six courses.

On completion of the houses a hose was attached to a ½ in. bibcock, full on and direct from the main, and was directed on the brickwork at 3 in. distance. The following observations were made:—(i.) Dampness appeared on the inside after 3½ hours continuous flow. (ii.) No dampness appeared after 5½ hours continuous flow. (iii.) No dampness appeared after 9 hours continuous flow.

The essential reason for the penetration of walls by moisture is that ordinary walling materials have a porous structure and water is transferred to the inner face of the wall by capillary forces. In the cement-mortar core capillary forces will still be exerted although with a very dense mortar the amount of water actually transmitted may be small. It would be a matter of some difficulty to ensure that a thin core of mortar is thoroughly compacted, especially since the water content of the mortar will be much affected by the absorption of the bricks. The likelihood of efflorescence will be much increased; it is generally recognised that much of the efflorescence observed on new brickwork is due to soluble salts derived from Portland cement mortar joints; the amount of salts available will be appreciably increased by the 1 in. core. An important factor also is the tendency for cement mortars to crack, and any defects of this kind will be liable to result in damp areas at the inner face of the wall. There would be an additional difficulty in ensuring that the mortar core is quite watertight round any ties which are used to form a bond between the two half-brick walls.

Choice of Sands for Cement Renderings.

A contractor submitted two samples of sand and requested the opinion of the Station as to which sand, when used with white cement, was the more likely to give a rendering free from crazing.

Reply.—The samples were too small to enable a sieve analysis to be made, but from a purely superficial examination they both appeared to be fairly well graded, and should make good aggregate for cement stucco. Both samples appeared to be very clean and free from excessively fine material. The fact that one sample contained less fine material than the other would, however, probably make it rather more suitable.

The production of a cement-rendered surface which will not develop crazing cracks is a matter of considerable difficulty, and at present no method is known which will give entirely satisfactory results without fail. The following precautions, however, should minimise the danger of the formation of cracks:—As lean a mix as possible should be used, nothing richer than a 1 : 3 or 1 : 4 by weight. The water content should be a minimum compatible with the application of the material. It is well known that the use of a large proportion of mixing water produces a mortar which will undergo marked shrinkage during the setting and drying period. It is necessary to ensure that the suction of the backing is effectively "killed" by thorough wetting. The rendered surface should be trowelled and worked as little as possible, and no more than is required to obtain thorough consolidation; excessive working tends to bring a large proportion of cement to the surface, and, therefore, the advantages of using a dry, lean mix would be lost. The method of curing is important. The work should be kept in a damp condition for at least seven days after application, and longer if possible. This may be done by periodical hosing of the surface, or by covering the face with sacking or similar materials which are kept continuously damp.

Crazing of Plaster Applied over Heating Panels.

A contractor had experienced trouble with ceiling plaster applied over heating panels on the underside of a concrete floor, and requested the opinion of the Station on the possible cause of the occurrence. After one year the surface of the plaster was badly crazed, and it was found that a canvas scrim embedded in the plaster had deteriorated. A sample of the plaster was submitted.

Reply.—On analysis, the plaster undercoat was found to be richer than is usually specified for work over heating panels; it was, however, heavily gauged with plaster of paris, and this heavy gauging was probably sufficient to prevent excessive shrinkage. The finishing coat was found to be very rich, but was only moderately gauged with plaster. The scrim was well embedded in the sample, and it appeared that a skimming coat of plaster about ⅛ in. thick had been applied over it.

Experiments carried out at the Building Research Station have shown that the severe conditions of exposure over heating panels are very liable to cause cracking in ordinary plaster finishes. The function of the scrim which is normally specified is presumed to be that of bridging over any cracks which are formed. It is essential, however, that the scrim should act as a surface reinforcement, and all specifications normally adopted for plastering over heating panels lay particular stress on the point that the scrim must be worked into the surface, but under no circumstances should a skimming coat be applied over it. In this case there is little doubt that the failure is due to the fact that a skimming coat of a very rich and lightly gauged plaster has been applied over the scrim.

The sample of plaster submitted appeared to be very much thicker than is ordinarily recommended for work of this kind. The thickness was of the order of 1¼ in. to 1½ in., whereas ¾ in. to ⅞ in. thickness is usually specified. No explanation can be given for the deterioration of the scrim, which appears to be a normal Hessian fabric. Similar material which has been used in our experimental panels has not undergone serious deterioration. It can only be suggested that the deterioration is due to some previous treatment of the fabric before incorporation in the plaster.

PORTLAND CEMENT SPECIFICATION

The British Engineering Standards Association has issued a revised edition of the British Standard Specification for Portland Cement (B.S.S. No. 12-1931), which was last revised in 1925. The new specification contains a number of modifications, amongst which may be noted the elimination of the 28-day test for cement and sand mortar, the 3- and 7-day tests only being specified; the introduction of a new method for ascertaining the quantity of water to be used for gauging for the tensile strength (cement and sand mortar); setting time and soundness tests; the reduction of the time of boiling in the test for soundness from 6 hours to 3 hours, and the inclusion of a stipulation as to the weight of cement in bags, wooden casks or steel drums. This last stipulation is not, however, to become operative until January 1, 1933, so as to enable existing stocks, etc., to be used up. The tensile test on neat cement is no longer an obligatory test of the specification, but for those who wish to use it, it is given in an appendix as an optional test. Provision has also been specially made for the testing of cement in hot climates. A fuller list of the principal alterations made is, as usual, given in the foreword to the specification.

Copies of this specification (B.S.S. No. 12-1931) may be obtained from the Publications Department, British Engineering Standards Association, 28, Victoria-street, London, S.W.1, price 2s. 2d., post free.

A Mayfair Site.

Messrs. Hampton and Sons announce that the sale of the freehold building site at 1-6, Hertford-street, 9-19 (odd), Shepherd-street, and 1-6, Carrington-street, Mayfair, will now be submitted to auction in their sale rooms at St. James's-square on Tuesday, December 8, having been postponed from November 3.

Building Developments, Essex.

The Education Committee of the Essex C.C. at their meeting on Tuesday made proposals for educational development amounting to £98,445. The chief items were: £57,708 for the erection and equipment of Ilford County High School for Boys; £8,369 for enlargement of Laindon High-road Council School; £14,747 for enlargement of Pitsea Council School; £5,731 for erection and equipment of Leigh Beck (Canvey Island) Junior School; and £5,100 for sites for two schools at Dagenham. The Committee for Visitors of Mental Hospital propose £61,500 for additions to nurses' home and a new admission hospital at Brentwood Mental Hospital, and £54,906 for new buildings at Severalls Mental Hospital. The County Architect is Mr. Jno. Stuart, F.R.I.B.A.

BUILDERS' BENEVOLENT INSTITUTION

The 79th annual dinner of the Builders' Benevolent Institution was held, under the presidency of Mr. C. J. Trollope, at the Hotel Victoria, on Tuesday evening. Amongst those present were Messrs. L. V. Grace, F. M. May, C. J. Bennett, A. S. Bennion, A. J. S. Sprague, C. C. Trollope, D. Harris, W. J. Stewart, B. C. Aldous, Digby Solomon, A. D. S. Rice, A. Grunspan, G. A. Dean, P. Fotheringham Parker, Eric Burt, Ben Carter, A. B. H. Colls, G. H. Parker, M. W. Godson, C. F. Ward, C. Hamilton Simpson, Harold Dickbee, H. W. Binns, H. B. T. Wakelam, W. Begg Simpson, T. P. Bennett, Andrew Mather, C. E. Elcock, G. J. S. Segar-Owen, F. W. Loasby, E. J. Brown, E. R. Babbs, T. S. Tait, W. J. B. Clark, Conrad Parlanti, Joseph Sabey, W. H. Smeaton, Clifford Aish, A. Goldstein, and the Secretary, W. J. Rudderham.

Mr. G. W. Buchanan (Presdt., L.M.B.A.), in submitting the toast of "The Builders' Benevolent Institution and its President," said that all would agree that the Institution required no boosting. All that was required was to give it support so that it could help those who could not help themselves. Times were not good for the building industry, but we had to be optimistic as regarded the future. With the toast was coupled the name of the President; he was the fourth representative of Messrs. Trollope and Colls to occupy the chair. The President had done a lot of work during the four or five years he had been on the Committee, and during the past year had been responsible for a great subscription list, in spite of hard times.

The President, responding, said that it was with some misgiving that he took upon himself the task of following Mr. H. T. Holloway and Mr. F. A. Minter, two of the most successful presidents ever. However, owing to the generosity of old and new friends, the task was made light. The object of the "B.B.I." was to help those that fell by the way through no fault of their own. There were 11 men and 31 women in receipt of annual sums of £52 and £39. There were also 11 men and women not eligible for pensions who were in receipt of a temporary relief of £36 per annum each. Thus, 53 persons benefited through the Institution at a cost of approximately £2,600 a year. At present that exceeded income by £1,200, for, in addition to annual pensions, the Committee endeavoured to make a gratuity at midsummer and Christmas of £5, and one had only to see the letters of thanks to see how much that was appreciated. While, thanks to friends (and in particular the builders' merchants) no applicant had ever been refused, the Committee would like to emphasise that the Institution was the only trade charity the L.M.B.A., had, and they would like to make it understood how much lighter their task would be if every member of the L.M.B.A. would make an annual subscription of two or three guineas. The President mentioned that in the course of making inquiries into a case for assistance, it turned out that the applicant was a relative of Thomas Cousins, founder of the Builders' Benevolent Institution, to whom a presentation had, in 1856, been made at the London Tavern, an occasion where the following honoured names connected with the building industry had occurred: Lawrence, Cubitt, Thorne, Nicholson and Higgs. Concluding, the President said that thanks were particularly due to Messrs. Carter and Ward, the honorary auditors, to the Committee and to the Secretary, Mr. W. J. Rudderham. One had to be a member of the Institution to realise how much work he did for them.

The toast of the "Builders' Merchants and Allied Trades," was proposed by Mr. George Gee, who said that he had been long enough connected with the work of the Institution to realise the great work of the merchants and allied trades, not only this year, but in every year since, he believed, the inception of the Institution. In these strenuous times cuts had to be made, but charities should be the last to be cut because the call on them was greater.

Mr. H. Leighton responded in a witty speech.

"The Visitors" were toasted by Mr. H. T. Holloway, who mentioned that the amount subscribed was £1,940, a very fine result in a year like this. They were glad to see their guests, architects, surveyors and others, and gave them a hearty welcome.

Mr. J. M. Theobald responded suitably.

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at The Builder *Office not later than Tuesday evening.*

Barnes.—Housing.—The U.D.C. are proposing to purchase 2¾ acres of land, known as Thompson's Nursery, Upper Richmond-road, East Sheen, for housing purposes.

Brentwood.—Extensions.—The Essex Committee of Visitors of Mental Hospitals has recommended £11,500 for addition to the nurses' home and £50,000 for admission hospital, at the Brentwood Mental Hospital.

Camden Town.—Building.—Mr. Andrew Mather, L.R.I.B.A., Leicester-square-chambers, Leicester-square, W.C.2, is the architect for the erection of a building abutting on King's-road and College-grove, for Messrs. W. and M. Hyman.

Croydon.—Showrooms. — Messrs. Allen Fairhead and Sons, Ltd., of Enfield, have secured at £28,709, the contract for new showrooms in Frith-road, for Messrs. Kennards. The architects are Messrs. George Baines and Son, FF.R.I.B.A., A.I.Struct.E., 121, Victoria-street, S.W.1, and the quantity surveyors are Messrs. L. A. Francis and Sons, Vernon House, Sicilian-avenue, W.C.1.

Deptford.—Alterations.—Messrs. D. G. Somerville & Co., Ltd., 35, Grosvenor-place, S.W.1, are altering Deptford pumping station, at £13,345, for the L.C.C. The plans for the work are by the County Council's Chief Engineer.

Finsbury. — Housing. — The B.C has applied to the L.C.C. for sanction to borrow £6,950 for the extension of two existing blocks of dwellings on the Margaret-street estate by the addition of eleven tenements. The work will consist of an extension of block A. Mr. E. C. P. Monson, F.R.I.B.A., Finsbury Pavement House, E.C.2, is the architect.

Great St. Helens.—Offices.—Messrs. Higgs and Hill, Ltd., builders, are now erecting a block of offices to the plans of Messrs. Joseph, 2, Paul's Bakehouse-court, E.C.4.

Ilford.—School.—The Essex E.C. has recommended £57,708 for the erection of the County High School for boys. The County Architect is Mr. Jno. Stuart, F.R.I.B.A., Chelmsford.

Lambeth.—Flats.—Messrs. Clutton, estate agents, 5, Great College-street, S.W.1, have a scheme on hand for the erection of 188 flats in Wilcox-road, Hartington-road and Davidson-gardens, Lambeth, for the Ecclesiastical Commissioners.

Marylebone.—Premises.—A block of buildings is to be erected on a site in New Chesterfield-street, Westmorland-street, and Marylebone-street. Messrs. Elgood and Hastie, 10, Henrietta-street, W.C.2, are the architects. Messrs. Bovis, 35, High-street, Marylebone, W.1, are the builders.

Marylebone-road.—Home. — Arrangements for the erection of a nursing home in Marylebone-road, with 600 beds for patients and hotel accommodation for friends and relatives, have reached an advanced stage. The scheme will involve an estimated expenditure of £1,000,000. The work is for the Medical Treatment and Nursing Home Syndicate, sponsored by Mr. Martin Harvey. The architect is Mr. C. E. Elcock, F.R.I.B.A., of Messrs. Elcock and Sutcliffe, Adam House, 60, Strand, W.C.2.

Morden.—Clinic.—The Surrey C.C. are acquiring a site in Middleton-road, on the first (central) section of St. Helier estate, for the purpose of erecting a school clinic.

Morden.—Church.—Sir Charles Nicholson, F.R.I.B.A., 2, New-square, W.C.2, is the architect for the new St. Peter Church, St. Helier estate. The contract will probably be settled in about a month.

North Kensington. — Premises. —Messrs. Considère Constructions, Ltd., 72, Victoria-street, S.W.1, are the concrete engineers for a block of premises for the Pall Mall Deposit Co., Ltd., in Barlby-road, W.10. The architect is Mr. W. G. Hunt, F.R.I.B.A., 15, Cromwell-road, S.W.7, and the builders are Messrs. Humphreys, Ltd., Knightsbridge, S.W.

Old Compton-street.—Hotel.—We understand that Mr. Ernest Schaufelberg, 3, Elm-court, Temple, E.C.4, is the architect for a new hotel which is proposed to be erected on a site in Church-street, Old Compton-street, and Greek-street.

Old Kent-road.—Building.—Mr. G. L. Russell, A.R.I.B.A., 16, Basinghall-street, E.C., is the architect for the erection of building upon sites of 442 and 444, Old Kent-road. The builders are Messrs. White and Johnson.

Queen Victoria-street.—Building. — The L.C.C. has sold freehold of (a) 27, Queen Victoria-street to the Woolwich Equitable Building Society, and (b) 29-33 (odd), Queen Victoria-street, to Sir Francis Oppenheimer, K.C.M.G., and Mr. Albert M. Oppenheimer, C.B.E.

St. Pancras.—Housing.—The L.C.C. are to demolish 4 to 16 (even), Drummond-street, and 56, Drummond-crescent, to make way for a new housing scheme on the site. The new houses are to be erected for the St. Pancras House Improvement Society. The architect is Mr. Ian B. M. Hamilton, F.R.I.B.A., 16, Old-buildings, Lincoln's Inn, W.C.2. We understand that the building work will be entrusted to Messrs. Wheeler Bros., 120, Church-street, W.8.

Southgate.—Housing.—Seven acres of land have become available for cottages near Telford-road, Bowes Park, as a result of the clearance for the Tube. The Railway Co. is to put up fourteen houses there to rehouse persons displaced, and they have sold the remainder of the land to the Council for housing purposes.

Spitalfields Market.—Office.—The Postmaster-General is to lease the ground floor and basement of 107, Commercial-street for use as a post office. Alterations are to be made.

Stamford Hill.—Exchange. — H.M.O.W. are inviting tenders for the erection of a new telephone exchange at Stamford Hill, N. The plans are by the Architects' Department, King Charles-street, S.W.1.

Wandsworth Common.—Extensions.—No building contract has yet been placed for the extensions to the Bolingbroke Hospital. The architects are Messrs. Young and Hall, 17, Southampton-street, W.C.1.

Willesden.—Extensions.—New children's wards are being erected at Park Royal Hospital by Messrs. Wm. Moss & Sons, Ltd., North Circular-road, Cricklewood, N.W., to the plans prepared by Messrs. Saxon Snell & Phillips, FF.R.I.B.A., 9, Bentinck-street, Manchester-square, W.1. Messrs. Young & Co., of 6, Queen Anne's-gate, Westminster, S.W.1, are responsible for the constructional steelwork.

THE PUBLIC WORKS EXHIBITION

On Monday was opened, at the Agricultural Hall, Islington, the Exhibition which is held under the auspices of the Public Works, Roads and Transport Congress. During this week it has been estimated that over 1,000 surveyors and road engineers, representing local authorities throughout the United Kingdom as well as many leading cities abroad, have met together to discuss the various aspects of work coming within their purview. We learn that a greater number of firms than ever have taken part in the Exhibition. Traffic signs and signals of all types, road markings, and novel kinds of day and night illuminated beacons are among the items that are on show. Several new types of road rollers are to be seen, including the three-roller type, the claims of which are the elimination of "waving" when rolling macadam and asphalt surfaces. In most instances, however, improvements have taken place in the further perfecting of plant rather than in the introduction of new devices or machinery. The Exhibition closes to-morrow (Saturday). We append notes on some of the principal exhibits :—

Housing.

Though principally a roads and transport show, there are certain exhibits of interest to the architect, as for instance, Messrs. Williams & Williams, Ltd.'s Stand 150, where a wide range of "Reliance" metal windows are cleverly built up to form a stand. The types include heavy standard casements and purpose-made windows (similar to those supplied by this firm for the Sun Life Assurance Co. of Canada's Montreal building); standard cottage casements with or without wood frames; standard French doors; and a variety of windows, screens and partitions for school, hospital, and other work. Working details of all standard "Reliance" windows can be inspected on the stand. Municipal architects will be largely interested also in Stand 152, where some beautiful examples of roofing tiles (of a price which commends them for municipal housing work) are to be seen. Messrs. Langley (London), Ltd., and the Courtrai-du-Nord Tile Co., Ltd., have at this Exhibition made a speciality of a number of delightful glazed finishes to the Courtrai-du-Nord and Beauvais roofing tiles, and also show Langley's interlocking pantile and cloister tile in various shades. The latter are peculiarly suitable for buildings of a public or semi-public nature. We are asked to make clear that while these tiles are of foreign origin, 60 per cent. of the cost to the buyer in this country is paid out to British shippers, seamen and staff, and that only British capital is employed.

On Stand 207, the Lewisham Timber Co., Ltd., have a special section showing fencing of all types, including the "Elefence" and "Wovence" styles. Also on show is a selection of specimen fencings withdrawn from various schemes in progress. Several standard types of gates are shown, but architects can have their drawings and specifications worked out. This company shows also sectional buildings and plant, as contractors' offices and sheds, and ladders, steps, etc.

Road-making Plant

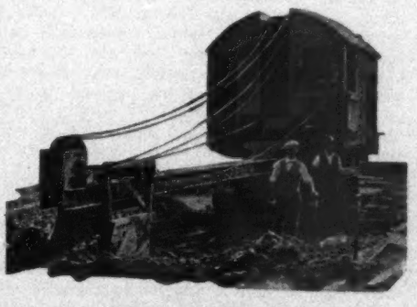
By far the largest number of the exhibits are concerned with the most modern application of machinery to road-making. Notable among a wide range of exhibits shown on Stand 40 by Messrs. Ruston & Hornsby, Ltd., is a new crude-oil locomotive which makes its appearance at the Exhibition for the first time. The engine runs on a wide range of fuel, such as Diesel light fuel oil, and the whole outfit is a sturdy job. The leading particulars are : (1) Three speeds of 2½, 4 and 6 miles per hour in either direction; (2) the gears are of hardened steel running in oil in a cast-iron gear-box ; (3) a special design of triple disc clutch is used, enabling either speed to be selected by means of a combined clutch and change speed lever working in a gate. The clutch and its operating mechanism are totally enclosed in the gear-box and work in an oil mist. An excellent point is that the locomotive is shown in action. For housing and estate development work this locomotive should, we feel, be invaluable. Diesel rollers of 2/2½ tons weight with rolling width 4 ft. 1 in. and fuel cost 7d. per eight-hour day, fuel-oil engines, crude-oil engines, and petrol paraffin engines, with a selection of pumps and pumping plant are also displayed, while a further interesting exhibit is a "Thermax" patented vertical boiler suitable for a working pressure of 120 lb. and a heating surface of 91 sq. ft. with grate area of 7.9 sq. ft. For it are claimed the following advantages : rapid water circulation, all-round accessibility, 20 per cent. definite fuel saving, reliability, quick steaming, high evaporation capacity, and easy cleaning. The patented arrangement of tubes fixed in tiers and inclined at an angle so as to extract the maximum heat from the gases is a detail to which attention is particularly drawn.

Messrs. Goodwin, Barsby & Co., Ltd., are concentrating attention on stone-breaking and screening machinery, a large selection of which is to be seen on Stand 77. Acting on the belief that the jaw-crusher type of stone-breaker gives the best all-round results, this exhibiting firm has given increased attention to their capabilities. An excellent example of these principles is the "Good-Win-Lever" primary breaker, which has a massive ribbed cast-steel frame, jawstock and lever. Visitors will be interested in various and ingenious methods adopted to ensure the maintenance of the machine in first-class running condition. There are several other breakers and granulators of equal merit shown, and in addition there is the latest 5/3½ model "Good-win" portable open-drum concrete mixer.

Messrs. Cowan Hulbert, Ltd., offer an exhibit on Stand 116 of particular interest to public works contractors. The equipment shown includes an "Insley" ½-cubic yard mechanical excavator, an "Insley" steel handcart, a "Blaw-Knox" wagon grader, "Blawforms" steel shuttering, "Dreadnaught" steel road forms, "Rex" high-speed concrete mixers, a "Cletrac" crawler type tractor, "Rooshors" adjustable self-locking shores, and "Roos" concrete column clamps.

Stand 46, that of Messrs. Barford & Perkins, Ltd., is entirely devoted to motor rollers, and well-built and compact jobs they are. The biggest machine is the "S.D.12," of approximate weight 11¾ tons, fitted with a 32/35 h.p. Diesel engine running on crude oil. The rolling width is 6 ft. 10¾ in., and the machine is of three-wheel design. The "M.D.8," also of three-wheel design, and 8 tons 14 cwt. in weight, has a rolling width of 6 ft. 4 in. Two other Diesel-engined machines and two petrol-engined rollers, for light road work and grass respectively, complete a good exhibit.

Excavating plant figures largely on Stand 49, where Messrs. Ransomes & Rapier, Ltd., are making their R. and R. type 420—½ cubic yard Universal excavator—the central exhibit on the stand. The machine is shown equipped as a skimmer scoop and powered by Diesel engine. It can, however, be quickly adapted for use as shovel, dragline, back trencher, grab, crane or pile driver. Electric or petrol drive can also be supplied. The embodying of the underframe and crawler frames in one steel casting is of particular interest, this being a unique feature. The travelling mechanism is all direct bevel and spur gears, with the last reduction enclosed in oil bath. No chains are used. There is also shown on the same stand a Fairlead as fitted to the R. and R. type 420 dragline, for guiding the bucket-dragging rope. This, again, is of unique design. The exhibit is completed with a few typical examples of the firm's very extensive range of tilting and rotary drum mixers.



The "R. and R." ½ cubic yard Universal Excavator.

Stand 47 is that of Messrs. Marshall, Sons & Co., Ltd. The group of "Marshall" products shown here comprises several important classes of power plant and machines designed to meet on thoroughly practical lines the present-day requirements of road-making. The most important exhibit is the "Marshall" 6-tons Diesel road roller. It has a two-cylinder high-speed four-stroke engine of the "cold-starting" type, which runs on cheap heavy fuel oils at a remarkably low consumption of .42 lb. per b.h.p. per hour. It has a "quick reverse" action for rolling on asphaltics, three speeds in either travel direction, and combines strength of construction, simplicity of mechanism, and ease of operation in a clean line design of exceptional attractiveness. The roller is equipped with an "Allen" two-tyne scarifier. The "Marshall-Universal" steam roller, 8 tons nominal, is designed to fulfil dual requirements of a roller for ordinary consolidation as well as for laying asphaltic and similar surfacings. A smaller and totally different design of roller is exemplified by the "Marshall" "Manumit" motor rollers, one of the finest general service light motor-driven rollers yet devised. The models shown weigh respectively about 12 cwt. and 16 cwt. The power unit is a four-stroke J.A.P. petrol engine. The type is much favoured for municipal parks and sports grounds. The latest model of "Marshall" Diesel industrial tractor is on view. Completing the exhibit is the "Marshall" model 4/3 concrete mixer, which represents a most successful machine of this class, especially for services where a relatively small output of concrete is called for.

Messrs. T. C. Jones, Ltd., who make a speciality of hiring contractors' tools and plant, display on Stand 179 a variety of machines for sale outright or hire. Chief amongst the exhibits is a 20-h.p. "Austro-Daimler" Diesel engine locomotive, of a type very useful to contractors developing large sites or building estates. The power unit is of unique design, combining the latest practice in full Diesels with air-cooling by forced draught to each of the four cylinders. Another useful piece of plant is the "Lightning" trench crane, of 3-cwt. single or 6-cwt. geared hoist. This can be fitted with a 35-ft. mast for building work. A 1-cubic yard capacity side-tipping wagon, constructed of ¼-in. plates, 24 in. gauge, a portable oscillating turntable, and a large range of tools and equipment complete a comprehensive exhibit.

Neal's "Rapid" mobile crane, shown by Messrs. R. H. Neal & Co., Ltd., on Stand 55, has been conceived and designed to meet the demand for a simple, modern and inexpensive mobile crane operated by an internal combustion engine, and of greater range and capacity than the smaller "Rapid" portable cranes. A specially designed clutch has been produced, and this has been combined with a unique safety device which is arranged so that the load is always held securely, regardless of the manner in which the clutch is operated. The standard model of the crane is mounted on the mobile undercarriage with solid rubber-tyred road wheels, but the same superstructure is supplied

mounted on rail wheels for 4 ft. 8½ in. gauge, on caterpillar tracks, or on a motor lorry chassis mounting, if required. All the motions are controlled from the driver's seat at the right-hand front end of the structure, where he has an unobstructed view. The standard petrol engine power unit consists of a Type A four-cylinder water-cooled engine, supplied by the Ford Company, which has ample margin of power output, as it develops up to 40 b.h.p.,

The Neal "Rapid" Mobile Crane.

and at its normal running speed on the crane can comfortably give the 18/20 h.p. required for the full lifting load. The maximum load of 2 tons is lifted on two parts of rope with a return block at a speed of 80 ft. per minute. The maximum radius for the full load is 14 ft. from the centre post. Other and lighter varieties of hoist are also displayed.

Another British-built crane is displayed by Messrs. T. G. Jones on Stand 106. This company demonstrates the "Jokrane" portable contractors' hoist. Petrol-driven, and with lifting capacity up to 6 cwt., it has a height of lift up to 35 ft. and is mounted on wheels suitable for 24 in. or one metre gauge track or for hard ground. This is a workman-like plant.

The Standard Steel Co. (1929), Ltd., show, on Stand 111, a 24 in. gauge 10 h.p. Diesel engine-driven locomotive, of exceptionally robust design, equipped with "compressorless" two-stroke Diesel engine. Some noteworthy features are included, and the running cost is under 2½d. per hour. Also shown is a 2-ton rubber-tyred hand road crane, for towing behind any vehicle, with trailer brake attachment. A 24 in. gauge 1 cu. yd. all-steel tipping wagon, and a variety of light railway and track fittings complete the stand.

Concrete Mixers.

An excellent variety of concrete mixing plant is displayed at the Exhibition. Messrs. Stothert & Pitt, Ltd., show, on Stand 33, their concrete mixing and distributing plant (for which a patent has been applied for). This plant incorporates their No. 7 Victoria mixer mounted on raised truck, with rising loader arranged to discharge on to a belt conveyor which delivers to a counter-balanced swivel chute. The chute will revolve through 360 deg. from the head of the conveyor, while the latter revolves through approximately 180 deg. The main feature of this plant is that concrete can be distributed within a radius of 25 ft. without moving the mixer and without any support outside the mixer truck. Another exhibit is the "Super Ten" Victoria mixer, a machine of new design; apart from retention of the well-known principle of the drum mixing blades, it incorporates many new features. A No. 5 tilting mixer, for output of 45 cubic yards per 8-hour day at the rate of 30 batches per hour; a No. 3½ tilting mixer and other plant complete this useful display.

Winget, Ltd., show on Stand 60 the "Winget McLanahan" sledge wedge crushers, combining sledge-hammer impact, wedge-splitting, and squeezing and grinding. Fitted with patent steel strut protection toggle and patented segmental roll, it is capable of giving large outputs when crushing limestone, shale, gypsum, sandstone, phosphate, cement rock, etc. A full range of the Winget open-drum tilting-type mixers is exhibited, including the popular tubular no-hopper models which are extremely light to handle. Also shown is the Winget Gantry Plant, this being specially designed for road-making. It consists of a mixer fitted with boom attachment, a boom to suit the width of the road, an outer boom support, and a tipping skip which is capable of receiving a full batch of mixed concrete and discharging at any point across the road. The gantry plant is supplied in all sizes and is so arranged that a standard hopper mixer is incorporated.

Messrs. Fredk. Parker, Ltd., have, on their Stand 61, an interesting patent washer for gravel, sand, stone, slag and clinker. This "Parker Contra" is of a design that ensures a clean washed product with a low water consumption. It is made in eight sizes, but the particular machine exhibited is No. 2 with capacity of 50-60 tons per day. A dewatering unit is attached. The Parker "Kubit" patent impact breaker for gravel, etc., is also worth close inspection. The machine exhibited, No. 3, can break 15-25 tons of 6-in. gravel to any size between 2 in. and ⅜ in. by simple variation of speed. The usual range of "Parker" concrete mixers, incorporating latest developments in design, are also on view.

Stand 57, that of the British Steel Piling Co., Ltd., has been built of their well-known "Larssen" steel sheet piling, and every civil engineer and contractor should make a point of examining the stand itself as well as the exhibits. On the stand are shown "Wonder" concrete mixers, an "Epic" hoist, a "Zenith" double-drum friction winch complete with boiler, and model pile-driving plants. Whilst on the subject of "Wonder" concrete mixers we learn that within the past few weeks the distinguishing numbers of the various sizes have been altered. The No. 2½ "Wonder" becomes 4/2½, No. 3 "Wonder" becomes 5/3½, and No. 4 "Wonder" becomes 7/5.

A new departure in loading hoppers for concrete mixers can be seen on Stand 169. The Liner Concrete Machinery Co. show their "Liner-Ram" tilting-drum mixer with a loading hopper operated by a hydraulic ram which has the effect of cutting out wire ropes, pulleys, clutches, etc. The loading hopper rises at speed, has a vibratory action at the top of its stroke which ensures a clean and rapid discharge into the mixing drum, and returns smoothly to the ground under its own weight without breaking. At present it is made in two sizes, 7-5 and 10-7. A selection of other "Liner" plant, which includes a stone and brick breaker and concrete moulds is also displayed.

On Stand 94, Messrs. A. A. Byrd & Co. show full-size sections of "Metaform" steel road rail and kerb and gutter forms, as used in modern concrete road construction. The latest models of the "Kwik-Mix" tilting drum concrete mixers, which are specially designed for concrete road work, also the new building construction models, are also on view, but of equal value are frequent practical demonstrations given daily on the stand in a specially constructed tank showing the sealing of water-bursts, under pressure, with the "Tricosal Rapid S111" medium.

The United Steel Companies, Ltd., show, on Stand 14, a variety of steel products manufactured by their component companies. Of particular interest is "Stribar" ferro-concrete bar and special constructions made therefrom, as strip for ferro-concrete work.

The Expanded Metal Co., Ltd.'s Stand 43 is another exhibit that will be visited by civil and ferro-concrete engineers. "Expamet" reinforcement for concrete roads, pavings; "Expamet" steel sheet reinforcement for concrete in foundations, floors, roofs, bridges, culverts, etc.; and "Exmet" reinforcement for brickwork are only a few exhibits on a well-arranged stand.

Concrete Products.

Several stands show pre-cast concrete products. The Croft Granite, Brick and Concrete Co., Ltd., display a full range of their products, including "Croftmac" tarviated Leicestershire granite, Leicestershire broken granite and chippings, and granite setts and kerbs; Welsh and Jersey broken granite and chippings, granite concrete kerbs and channels, fence and rail posts, and "Hydromant" reconstructed stone, as supplied to the Bank of England. Their stand is No. 45.

The Atlas Stone Co., Ltd., on Stand 51, are displaying their well-known products "Atlas Foothold" paving slabs, kerb and many other channels appertaining to pre-cast concrete products, together with asbestos cement which they manufacture, in a novel and attractive stand. The stand is constructed to display these materials, which are manufactured at works around London and Cambridge on attractive futurist lines. To those interested, and others, a visit should prove useful and instructive.

Miscellaneous.

The prevalence to-day of damp in buildings renders of particular interest a demonstration of sealing against damp. Sika-François, Ltd., on Stand 29, show how their products are used to render a concrete wall face over which water is passing in fair volume at the time the rendering is applied. A hole in a concrete wall through which water is flowing in a considerable jet is sealed also. A series of demonstrations of uses of the various waterproofing compounds sold by the company is given daily.

While the principal features of Messrs. W. H. Gaze & Sons, Ltd.'s Stand 4 consist of hard tennis court sections—of a special non-upkeep type with good wearing qualities and immediate porosity—a special interest will be taken in a series of photographs of landscape gardening carried out by Messrs. Gaze & Sons. This branch of architecture is enjoying a regained popularity.

A working model of particular appeal to highway and municipal lighting engineers is to be found on Stand 141, where the General Electric Co., Ltd., in association with Siemens and General Electric Railway Signal Co., Ltd., show the "View Scope," an ingenious scale model by which can be seen the actual intensity of illumination and effect on road surfaces of various kinds obtained by "Wembley" lanterns with varied arrangements of spacing, mounting, height and wattage. The great progress made in recent years in highway lighting fitting design is also noticeable in other interesting exhibits.

Steel scaffolding for every use where scaffolding can be employed is shown on Stand 157 by Steel Scaffolding Co., Ltd. Also on view are "Bettaskaf" world-wide patented fittings, which, used with standard steel tubing, constitute a most advanced form of steel scaffolding, particularly suitable for use on housing schemes, and ideal for engineer-shop bins, racks, temporary road shelters, loading hoppers, etc. All-steel telescopic props for trench shores, roadwork and other purposes; and the "Marshor" all-steel patent shore for building trade or pit-props are other exhibits of note.

An interesting range of office furniture, all manufactured in steel, including a number of lines only recently placed on the market, will be found on Stand 198, that of the Art Metal Construction Company. Steel filing cabinets, plan files, shelving, desks and tables are shown in variety and should make a particular appeal to the architectural and engineering professions. A system of filing, the "Post-index Visible," is also worthy of close inspection.

BOOK REVIEW

Industrial Relations in the Building Industry. By WILLIAM HABER, Ph.D., Associate Professor of Economics, Michigan State College. Cambridge, U.S.A.: Harvard University Press. 1930: Humphrey Milford, Oxford University Press, Amen House, London. 22s. 6d. net.

In a foreword to this volume it is stated that the Wertheim Committee is glad to publish this work of Dr. Haber, which is the result of years of laborious work and in the production of which he has had the benefit of advice and criticism from many competent sources. We find it a very attractively written and comprehensive study of the history and working conditions of the building industry in the United States which should be of great interest and instruction to those engaged in the industry in this country. It is a work of considerable magnitude, comprising 525 pages of text, and with notes and index, close on 600 pages; but owing to the lucid and literary style in which it is written it is a book that can be enjoyed over the fireside.

The work is divided into five parts, but each part has a number of sub-headings. Part I is introductory, and the reader's attention is at once fixed by three statements—firstly, that the building industry with its periodic manifestations of discord has been labelled by legislative investigations as one of the worst conducted industries in the United States; secondly, that its business practices are in general wasteful, haphazard, and far behind those of other American industries; and the competitive struggle results in combinations among various producing groups which restrict competition, maintain prices, and apportion business territory; and yet, thirdly, that its operations are of such importance that it has been described as "the balance wheel of American industry" and it is not likely that the country can enjoy real prosperity at any time when its "construction industry" is employed at anything much less than full capacity. If, however, this introductory chapter gives the reader the impression that he is called upon to study an ill-regulated and moribund industry the succeeding chapters will soon convince him that this is not the case, and we think that readers in this country will find this volume of particular interest and instructive because it illustrates the rise of the industry from such a condition, though beset by many of the troubles, such as the reconcilement of trade union interests, with which we are so familiar here. Part II is entitled "The Industrial Setting," and here we find under the sub-heading "The Industrial Revolution" such subjects treated on as the technical changes in building methods, improvements in mechanical processes; and under another sub-heading, "Competition for Jobs," such subjects as waste due to competitive practices and to building codes and other factors.

Part III relates to "Industrial Problems" such as seasonal employment and seasonal unemployment; the five-day week; the apprenticeship problem; jurisdictional disputes, and the methods of settling them; and the closed and open shop, etc.; whilst Part IV is of especial interest, as in that section the trade unions are dealt with. Part V contains some general conclusions.

The space at our disposal would hardly suffice for a summary of the Table of Contents, and we have only attempted briefly to indicate the scope of the work. Turning to the final part, we find it stated that the industrial relations problem in the building trade centres on the stabilisation of industrial relations and that this must be the fundamental aim, and after considering what stabilisation means from the points of view of the employer, the contractor, and the worker, the author, with reference to the preceding pages, indicates the disturbing factors, which are six in number: (1) Jurisdictional disputes, (2) seasonal construction, (3) working rules, (4) wage conflicts, (5) business competition, and (6) weak organisation of employers. In order of importance the first place is given to jurisdictional disputes, that is, disputes between trade unions themselves, which before 1919 accounted for between 80 and 90 per cent. of all strikes and lock-outs in the larger cities, a percentage considerably reduced by methods of conciliation, etc., described in these pages. The second place is given to the seasonal character of the industry and the bearing it has on employment or unemployment, and it is stated that an organised attempt is being made to regularise employment throughout the year, but that the obstacles in the way are, first, the small contractors whose technical equipment and managerial efficiency are not adaptable to winter building operations, and secondly, the difficulty of educating the public as to the feasibility and advantages of winter construction. Wage disputes are placed third in order, and these it is stated largely result from wage differentials for different trades which are not based on extra competency or for special skill and only in few cases for extra hazard, but are secured by special bargaining or through an alliance between several trades which support them. Bonuses are also referred to as a disturbing cause, but seasonal employment has its share in creating disputes. "Working Rules" in this connection mean the trade union rules which the author says have been designated "barbed wire entanglements."

We have been able to do no more than indicate that in this well-written and well-arranged volume our readers will discover a wealth of matter likely to interest them.

NEW CINEMAS

Eastbourne and Worthing.—Mr. Walter Bentley has decided to erect a large super cinema at Eastbourne and one at Worthing. Suitable sites have been secured, and Messrs. J. Stanley Beard and Clare, F. and A.R.I.B.A., National Bank House, 101-3, Baker-street, W.1, have been instructed to prepare plans for these forthwith. The site at Eastbourne is adjoining Terminus-road, and the site at Worthing is on the sea front, opposite the band stand.

Leeds.—A super-cinema with seating accommodation for 2,000 people and 12 shops is to be shortly built upon a site near Sholebroke-avenue, Chapeltown-road. Mr. John Lambert, City Cinema, Boar-lane, Leeds, is interested in the scheme.

Shrewsbury.—It is learnt that Bernstein Theatres, Ltd., 97, Wardour-street, W.1, propose a super cinema in the town. Mr. Cecil Masey, F.R.I.B.A., 15, Caroline-place, W.C.1, has the plans in hand.

Southport.—It is learnt that Mr. Fred Worswick proposes to convert the Embassy Buildings at Formby, near Southport, into a cinema.

Truro.—Plans for the proposed new super-cinema, at Lemon-street, Truro, were submitted to Cornwall General Purposes Committee, at Truro. The committee approved the plans, subject to certain requirements, required by the County Architect, Mr. S. Pool. It is learnt that Mr. H. J. Hammick, L.R.I.B.A., 63, Old Town-street, Plymouth, has prepared the plans.

Wigton (Cumberland).—The magistrates have approved a scheme for alterations to the "Queen's Picture Hall," Aspatria.

New Flats, South London.

Messrs. Jonathan Harrington and Douglas Macintosh, who are attending the Central School of Arts and Crafts, have secured the designing of a block of flats in South London, estimated to cost £100,000.

BIRMINGHAM BUILDERS

ANNUAL MEETING.

THE annual meeting of the Birmingham Association of Building Trades Employers was held at the Chamber of Commerce, Birmingham, on Wednesday, November 4, the President, Mr. H. J. Elvins, in the chair. The report of the Executive Council circulated to the members mentioned that the building trade, in common with almost every other industry, had experienced a period of severe depression during the past year. A certain amount of activity had been maintained by the erection of schools and other public buildings, by which means a small number of firms had been kept fairly busy, but this had not been sufficient to counterbalance the serious decline in private building work on which the industry relied for its principal occupation. The partial suspension of the municipal housing scheme which took place during the year had been an additional factor in producing the adverse conditions from which the trade had suffered. These conditions were reflected in the official records relating to unemployment, which showed an increase in the numbers of unemployed building trade operatives over those of the previous year, bad as the latter were. When to the present position was added the inevitable curtailment of expenditure on public works consequent upon the imperative need for national economy, the immediate prospect was not very bright, and it could only be hoped that a more settled state of affairs would arise in the near future to be followed by a speedy revival in industry generally, in which the building trade would be included.

The President, in proposing the adoption of the report, said they must agree with the general principle of restrictions on public buildings, but they only hoped they would not be carried to unnecessary lengths, or they would only defeat the object they had in view, and cause more depression in the trade. He thought the members of the building trade might safely hope for the future and bear their burdens in patience a little longer. It might well be that they would ultimately share in the revival of trade which, following recent events, was confidently predicted throughout the country.

Mr. Charles Twigg proposed the re-election of Mr. H. J. Elvins as President for another year. The proposition was seconded by Mr. E. J. Bryant and carried unanimously.

The following officers were also re-elected:—Senior vice-president, Mr. G. T. Stephens; junior vice-president, Mr. H. A. Harper; hon. treasurer, Mr. E. J. Bryant; and the hon. auditors, Messrs P. F. Bierman and V. T. Williams.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

HUBBARD & HAMMON (1931), LTD. (259,553). Registered October 10. 139, North End, Croydon. Builders, etc. Nominal capital, £100.

JAMES MATSON, LTD. (259,556). Registered October 10. Builders, etc. Nominal capital, £4,500. J. Matson, Deringwood, Mount-road, Hayes, Middlesex.

P. J. DREW, LTD. (259,507). Registered October 8. Builders' and plumbers' merchant. Corner House, 63a, Friar-street, Reading. Nominal capital, £6,000.

A. B. C. CONSTRUCTION, LTD. (259,484). Registered October 8. Bituminous compounds or mixtures, etc. Nominal capital, £10,100. R. Pinsent, 6, Bennetts-hill, Birmingham.

DAVID WALTON & CO., LTD. (259,453). Registered October 7. Builders and contractors. At Clarendon-road, Salford. Nominal capital, £8,000.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1931.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Accrington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Aldershot	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Alfreton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Alnwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Altrincham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ashford (Kent)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Ashington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ashton-under-Lyne	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Aylsham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Barnstaple	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barrow-in-Furness	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Barry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bedford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Berwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bexhill	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Birkenhead	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Birmingham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bishop Auckland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackburn	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackpool	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bolton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bournemouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bradford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bradford-on-Avon	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0
Brentwood	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Brighton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bristol	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromsgrove	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bromyard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Bungay	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Burnley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Burton-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bury St. Edmunds	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Buxton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Cardiff	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Carlisle	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chesterfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chorley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cirencester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Clacton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Colchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Coventry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cranbrook	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Crewe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cromer	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Darlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Deal	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Denbigh	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Derby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Devizes	1/3	1/3	1/3	1/3	1/3	1/2	1/2	11½
Dewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Doncaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Dorking	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Durham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Eastbourne	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
E.Glam.(Mon.Val.)	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ely	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Exeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Glossop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gloucester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Godalming	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Goole	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Gosport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grantham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gt. Yarmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Grimsby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Guildford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Halifax	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Harpenden	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Harrogate	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hartlepools	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hatfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hednesford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hereford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Herne Bay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Huddersfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hull	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hunstanton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huntingdon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Isle of Wight	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Ipswich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Keighley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Kettering	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kidderminster	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kings Lynn	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lancaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leamington Sp	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leeds	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leicester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leighton Buzzard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Littlehampton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Liverpool	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
London—								
12 m. radius	1/8	1/8	1/8	1/8	*	1/8	1/8	1/7
12-15 m. radius	1/7½	1/7½	1/7½	1/8	*	1/7½	1/7½	1/6½
Loughborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lowestoft	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Luton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Macclesfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Manchester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Mansfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Market Harborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Matlock	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Melton Constable	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Melton Mowbray	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Merthyr Tydfil	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Middlesbrough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newcastle-on-Tyne	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newcastle-u-Lyme	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
New Forest	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newport, Mon.	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Northampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Norwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Nottingham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nuneaton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Peterborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Plymouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Pontypridd	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Portsmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Preston	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Redditch	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Reigate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Retford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ripon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rochdale	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Saffron Walden	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
St. Albans	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
St. Helens	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sawbridgeworth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Saxmundham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Scarborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Shrewsbury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sittingbourne	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
South Shields	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stockton-on-Tees	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stoke-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourbridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stowmarket	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Stratford-on-Avon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sunderland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Swaffham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Swansea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Tamworth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Thetford	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Torquay	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Walsden	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warminster	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Warrington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wells (Norfolk)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Welwyn Gar. City	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
West Bromwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Weston-sup-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Whitby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½
Wigan	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Winchester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Windsor	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wisbech	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wolverhampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Woodbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Worcester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worksop	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worthing	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wrexham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wycombe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wymondham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

*The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st February, 1931, is 1/10½ per hour.

For Building Trade wages in Scotland, see page 858.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

NOVEMBER 23.

Bedworth.—Lavatories.—Public lavatories at Collycroft, for U.D.C. H. W. Crowther-Green, E. and S. Dep. £1 1s.

Dundee.—Houses.—166 tenement houses and 2 and 3 stories, for Corporation. Official Quantity Surveyor, 91, Commercial-st.

Edinburgh.—Wall.—Taking down and reinstating of existing parapet wall and iron railing fronting Inverleith Church, Ferry-rd.; and forming of new footpath and forecourt to Church, for T.C. B.E., 329, High-st.

Harrogate.—Installation.—Of low-pressure hot water apparatus and electric light at new grammar school, for West Riding E.C. Education Officer, County Hall, Wakefield.

London.—Wiring.—Also fittings for rewiring for electric lighting certain wards of City of London Institution, 2a, Bow-rd., E.3, for L.C.C. Chief Engineer, Old County Hall, Spring Gardens, S.W.1. Dep. £1.

***London, E.15.**—Hot water installation. At Carter-rd. school, for the West Ham E.C. John H. Jacques, F.R.I.B.A., 51, West Ham-lane, Stratford, E. Dep. £1.

***Northampton.**—Houses.—On the Kettering rd. estate. Town Hall. Guildhall. Dep. £5.

Nottingham.—Building.—Sub-station, Wollaton-rd., for T.C. T. Wallis Gordon, City E. and S. Dep. £2.

Oldham.—Building.—Boiler house and messroom, also new laboratory, at Higginshaw Gas Works, for C.B. Ernest Parry, Commercial Manager, Gas and Water Offices, Greaves-st. Dep. £5 5s.

Rugby.—Extension.—To the public baths, for U.D.C. Clerk, Benn-buildings. Dep. £2 2s.

Sheffield.—School.—Senior school, assembly hall, etc., at Ben-lane, Wadsley, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Wombwell.—Conversion.—Into water closets of 13 privies, for U.D.C. Sanitary Inspector.

NOVEMBER 24.

Bedlingtonshire.—Houses.—50 for aged persons at Bedlington station, for U.D.C. J. W. Pooley, S.

Glasgow.—Additions.—Temporary addition to St. Patrick's (boys') school, Bishop-st., C.3, for T.C. Education Offices (Property Department), 129, Bath-st.

Lancaster.—Houses.—50 houses of A3 type on Ryeland's Housing estate, for T.C. B.S. Dep. £1 1s.

Leeds.—Fencing.—Pulling down existing boundary walls, pillars and fencing and erection of stone boundary wall along Hunslet Baptist Tabernacle frontage, Low-rd., for T.C. J. E. Acfield, City E.

Mallow.—Extensions.—To Nazareth House, Mallow, Co. Cork, for housing of old people. W. H. Byrne & Son, architects, 20, Suffolk-st., Dublin. Dep. £3 3s.

NOVEMBER 25.

Aberystwyth.—Flats.—Three self-contained flats, for T.C. B.S. Dep. £1 1s.

Barrow-in-Furness.—Housing.—56 flats for Aged Persons on Roosegate estate, for C.B. B.E. Dep. £1 1s.

Glasgow.—Ironmongery.—At Balmore (Park-house) school, for E.C. Education Offices (Property Department), 129, Bath-st. Dep. £1 1s.

Haydock.—Houses.—12 parlour type on Clipsley site, for U.D.C. C. Dickinson, Clerk. Dep. £1 1s.

London, E.C.—Superstructure.—Erection at the G.P.O. For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Merton and Morden.—Fencing.—Fencing and railings, also drainage at cemetery at Garth-rd., Lower Morden, for U.D.C. G. Jerram, E. and S. Dep. £1.

Nottingham.—Painting.—Internal cleaning and painting at various schools, for the E.C. A. H. Whipple, Director of Education.

Rochdale.—Installations.—Electric lighting and power installations to 100 houses on Cutgate estate, for C.B. B.S.

Southampton.—Centre.—Town Hall, block No. 3; art gallery and art school, block No. 4; lay-out of site, for C.B. E. Berry Webber, A.R.I.B.A., of 42, Gordon-sq., London, W.C.1. Dep. £5 5s. each.

Wanstead, E.11.—New Nursery Block, at the Children's Receiving Homes. The Mayor, Town Hall, East Ham, E.6. Dep. £2.

NOVEMBER 26.

Chelmsford.—Houses.—2 pairs of houses, Corporation-rd., Boarded Barns estate, together with fences, laying of house drainage, and formation of paths appertaining thereto, for T.C. E. J. Miles, B.E. Dep. £2 2s.

Coventry.—Church.—New Church of St. Barnabas. Austin & Paley, architects, Castle-park, Lancaster.

Dorchester.—Houses.—At Victoria Park. T.C., 21, North-sq. Dep. £2 2s

Down.—Schools.—Public elementary schools at Croreagh and Rockvale, for County Regional E.C. Castor J. Love, architect, 5, Wellington-pl., Belfast.

Hemsworth.—Fencing.—Excavation, hand-pitching, tar macadam paving, post and chain barrier, etc., in construction of an omnibus stand adjoining the "Chequers Inn," South Elmsall, near Pontefract, for R.D.C. T. Lynam, E. Dep. £1.

Kildare.—Cottages.—3 cottages at Monasterevan, Co. Kildare, for Irish Sailors' and Soldiers' Land Trust. W. J. Brown, F.R.I.B.A., F.S.I., architect, Irish Sailors' and Soldiers' Land Trust, Dublin. Dep.. £1 1s.

NOVEMBER 27.

Bideford.—Tower.—Hose-drying tower at fire brigade station, for T.C. B.S.

***Eastbourne.**—Proposed shelter and bandstand. Borough Engineer, Town Hall. Dep. £2 2s.

Morley.—Adaptation.—Of mill premises for technical institute purposes, for West Riding C.C. Education Officer, Wakefield.

Salford.—Building.—Small electricity sub-station building in Prestwich, for T.C. City Electrical Engineer, Electricity Department, Frederick-rd.

NOVEMBER 28.

Brierfield.—Building.—Refuse destructor building, on site adjoining sewage disposal works, for U.D.C. W. D. Haigh, E. and S. Dep. £1 1s.

Buckie.—Pavilion.—Pavilion and two conveniences at bowling green, West Church-st., for T.C. B.S.

Dagenham.—Gates.—213 yds. of wrought iron fencing, with gates, for Valence Park, Becontree, for U.D.C. T. P. Francis, S. Dep. £1 1s.

NOVEMBER 30.

Aberdeen.—Installation.—Electric wiring installation at Medical Block, New Infirmary, Foresterhill, for Directors of the Aberdeen Royal Infirmary. James B. Nicol, architect, 367, Union-st.

Acton.—Conveniences.—Additional conveniences at public baths, Salisbury-st., Acton, W.3, for T.C. W. G. Cross, B.E.

Barnsley.—Additions.—Small addition to cottage at screening chamber, Pontefract-rd., for C.B. B.E., Church-st.

Bedworth.—Houses.—26 parlour type at Bedworth Heath, for U.D.C. H. W. Crowther-Green, E. and S. Dep. £1 1s.

Cury (Lancs).—House.—Dwelling-house and appurtenances at Nanfan Farm, Cury. H. Richards, Nanfan Farm, Cury Cross, Lancs.

Halifax.—Depot.—Structural steelwork in 'bus depot, Elmwood, for C.B. A. C. Tipple, Borough Engineer, Crossley-st., for C.B. Dep. £2 2s.

Penyfai.—Building.—Superstructure of new Admission Hospital, Convalescent Home and Nurses' Home, and other works at Penyfai, Bridgend, for Glamorgan County Mental Hospital. W. Gough Jenkins, Clerk to the Committee of Visitors, Glamorgan County-hall, Cardiff. Dep. £2 2s.

Wombwell.—Repairs.—Barnsley-rd. Council school (1) relaying floor boards in various class-rooms (2) repair of roof to teachers' lavatories and wash-house; Jump Council school (caretaker's house), conversion of privy, for West Riding C.C. C. Ellison, Divisional Clerk, Education Office, Swinton, Rotherham.

DECEMBER 1.

Chaddesden.—School.—Council school for 300 children, for Derbyshire C.C. G. H. Widdows, F.R.I.B.A., County Architect, St. Mary's-gate, Derby. Dep. £1 1s.

DECEMBER 2.

Euston, N.W.—Telephone Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Falmouth.—Houses.—34, at Penwerris, for T.C. H. E. Tresidder, B.S. Dep. £2 2s.

Hendon.—Houses.—26 working-class dwellings on Glebe Housing site, Great Stanmore, for R.D.C. H. W. Rackham, S. Dep. £2 2s.

Tamworth.—Houses.—164 houses and construction of roads and sewers on Bolehall site, for T.C. A. Oswald Marshall, B.E. and S.

DECEMBER 3.

Ossett, Yorks.—Alterations and Additions.—To Post Office, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

DECEMBER 4.

East Ham.—Public Swimming-bath, Slipper-baths, etc.—For Corporation. Town Clerk, Town Hall, E.6. Dep. £2 2s.

Watford.—Post Office (second section).—Erection of, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

DECEMBER 5.

***Ranmoor (Sheffield).**—Telephone Exchange, for H.M.O.W., Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

DECEMBER 6.

Belfast.—Shed.—Also collateral works on west side of Turning Basin, Co. Antrim, for Harbour Commissioners. T. S. Gilbert, consulting engineer, Harbour Office.

***Leeds.**—Post Office garage, for H.M.O.W., Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Norfolk.—Alterations.—To Downham Market Poor Law Institution, for C.C. C. J. Norton, A.R.I.B.A., Stracey-rd., Norwich. Dep. £1 1s.

DECEMBER 10.

***Stamford Hill, N.**—Telephone Exchange, for H.M.O.W., Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

DECEMBER 14.

Kiveton Park.—Conversions.—Improving sewage disposal works and for converting into water closets 190 pail and privy closets in parish of Anston, for R.D.C. S.

DECEMBER 18.

***Cardiff, and Newton Abbott.**—Site works, etc., for the Central Electricity Board. Secretary, Trafalgar-buildings, 1, Charing Cross, London, S.W.1. Dep. £1 1s.

NO DATE.

***Bournemouth.**—Alterations and additions to shop premises. Timothy White's (1928), Ltd., Construction Dept., 30, Chandos-st., Portsmouth.

Braintree.—Painting.—External painting of block of 12 cottages at Feering, and also various internal decorating to 128 cottages in various parishes in the rural district, for R.D.C. H. E. Fellows, estate manager, St. Peter's-close, Bocking.

Skipton.—House.—Detached house, Lothersdale-rd., Cross Hills, for O. Wilson. F. Suddards, architect, Exchange-buildings, Skipton.

Stoke-on-Trent.—Sub-station.—In Hartshill-rd., for T.C. Wood & Goldstraw, architects, Town Hall Chambers, Tunstall. Dep. £2.

MATERIALS, etc.

NOVEMBER 23.

Beckenham.—Paving.—Artificial stone paving, for U.D.C. H. Storr Best, S., 36, High-st. Dep. £2.

Gloucestershire.—Tar, etc.—For C.C. C.S., Gloucester.

Gloucestershire.—Road materials.—For C.C. C.S., Gloucester.

Prestwich.—Fittings.—Hardware and sanitary fittings for 140 houses on Polefield estate, for U.D.C. E. and S.

St. Austell.—Pipes.—2,930 yds. lin. of 4 in., and 600 yds. lin. of 3 in. cast-iron pipes and specials, for U.D.C. E. D. Groves, S.

NOVEMBER 24.

Dartford.—Tarred Slag.—For U.D.C. J. J. Hurley, Clerk.

NOVEMBER 25.

Belfast.—Iron Castings, etc.—For Harbour Commissioners. M. J. Watkins, General Manager and Secretary, Harbour Offices.

Dublin.—Building Materials.—For Great Southern Railways. H. S. Coe, secretary, Kingsbridge Station.

Honiton.—Road Materials.—For R.D.C. W. North, S.

NOVEMBER 26.

***Gravesend.**—Supply of school furniture to Whitehall school. Town Clerk, 4, Woodville-terr.

NOVEMBER 30.

Chepping Wycombe.—Mains.—6,200 yds. of 6 in. and 2,517 yds. of 4 in. steel pipe, coated and double wrapped, together with necessary special pipes and bends, for T.C. S. Young, Water Engineer, 71, Easton-st., High Wycombe. Dep. £2.

Leicester.—Highway Materials.—For T.C. A. T. Gooseman, City S.

West Sussex.—Tar, etc.—For C.C. H. W. Bowen, C.S., Southgate House, Chichester.

West Sussex.—Road Materials.—Cartage.—For C.C. H. W. Bowen, C.S., Southgate House, Chichester.

DECEMBER 1.

Middleton.—Road materials, etc.—For T.C. B.E.

DECEMBER 2.

St. Thomas.—Road Materials.—For R.D.C. J. S. Madge, S., Brooklands, Heavitree, Exeter.

DECEMBER 3.

Buxton.—Highway Materials.—For T.C. F. Langley, B.E.

DECEMBER 12.

East Suffolk.—Road Materials.—For C.C. W. Jervis, C.S., Ipswich.

DECEMBER 23.

Angora.—Bricks, etc.—Refractory bricks and mortar, for Ministry of National Defence. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. B.X. 7188.)

NO DATE.

Birmingham.—Granite Chippings. H. H. Humphries, City E. and S.

ENGINEERING, IRON AND STEEL.

NOVEMBER 23.

Orsett.—Water Supply.—For R.D.C. G. F. Andrassy, E. and S.

NOVEMBER 24.

Dedfont.—Sewerage.—For Thundersley sewerage scheme, for U.D.C. W. E. Blizard, E. (Lemon & Blizard), 9, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

NOVEMBER 25.

Birmingham.—Sewerage.—4,050 yds. of brick and concrete and stoneware pipe sewers and culverts and about 950 yds. of stoneware pipe drains between River Tame near Wellington-rd. and Albert-rd., Handsworth, for T.C. H. H. Humphries, City E. and S. Dep. £2.

Birmingham.—Sewerage.—612 yds. of cast-iron and stoneware pipe sewers between Stratford-on-Avon Canal and School-rd., Yardley Wood, including canal crossing and a further crossing under canal between Warstock-lane and Alcester-rd. South, for T.C. H. H. Humphries, City E. and S. Dep. £2.

Bradford-on-Avon.—Sewerage.—Also sewage disposal works, in parish of Winsley, for R.D.C. Parker, Pearson & Ross Hooper, engineers, Dallas-chambs., Chippenham. Dep. £3.

East Preston.—Water Supply.—For parishes of Rustington, East Preston and Angmering, for R.D.C. D. Balfour & Son, civil engineers, 47, Victoria-st., Westminster, S.W.1. Dep. £10.

Newtownmountkenny.—Sewerage.—At Newtownmountkenny, for Wicklow Board of Health and Public Assistance. P. J. Foley, engineer, Board of Health Offices, Rathdrum. Dep. £3.

NOVEMBER 26.

St. Germans.—Main.—Providing and laying about 1,500 yds. of 3-in. cast-iron water main from Forder to Antony Passage and Trematon Castle, St. Stephens-by-Saltash, together with air valves, hydrants, sluice valves, and other fittings, for R.D.C. J. P. Heath, clerk.

NOVEMBER 27.

Clashmannan.—Drainage.—Providing and laying about 1,920 lin. yds. of 6-in. and 9-in. dia. fireclay pipe sewers, and construction of sewage purification works for Sauchie and Fishcross and for Devon Village and Black-row, for C.C. Carfrae & Morrison, C.E., 4, Hill-st., Edinburgh. Dep. £1.

NOVEMBER 28.

Taunton.—Alterations.—At sewage disposal works, for T.C. B.S. Dep. £2 2s.

NOVEMBER 30.

Chepping Wycombe.—Waterworks.—Carting, laying and jointing of about 8,200 yds. of 6 in. and 2,517 yds. of 4 in. steel pipe, together with sluice valves, air valves and hydrants, for T.C. S. Young, Water Engineer, 71, Easton-st., High Wycombe. Dep. £2.

London.—Extension.—Of existing bridge carrying High-rd., Lee over River Quaggy, for C.C. Chief Engineer, Old County Hall, Spring Gardens, S.W.1. Dep. £2.

Macclesfield.—Sewerage.—1,800 yds. of 15-in. dia. and 1,200 yds. of 21-in. dia. stoneware sewers, together with manholes, etc., and including river crossings and appurtenant works, for T.C. G. Bertram Kershaw, chartered civil engineer, 9, Victoria-st., Westminster, S.W.1. Dep. £5.

Runcorn.—Sewage Disposal Works.—At Helsby, for R.D.C. J. O. Hunter, 69, High-st. Dep. £3 3s.

Winchcomb.—Water Supply.—For R.D.C. L. W. Barnard, E., Promenade, Cheltenham. Dep. £1 1s.

DECEMBER 1.

Egypt.—Water Supply.—For Atf power station, for Commercial Secretary to the Residency, Egypt. Department of Overseas Trade (Room 50), 35, Old Queen-st., London, S.W.1. (Ref. G. 10788.)

Llandrindod Wells.—Extension.—Laying and jointing about 1,000 yds. of 6-in. cast-iron pipe rising main; supplying pipes for same; and construction of reservoir, for U.D.C. Piddian & Deeley, engineers, 13, Church-st., Stourbridge. Dep. £2.

Southall-Norwood.—Sewerage.—6¾ miles of cast-iron, concrete and stoneware sewers from 12 to 36 in. in dia., partly in tunnel, and of sewage purification works, comprising grit chambers, sedimentation tanks, trickling filters, etc., for U.D.C. A. J. Martin, E., 108, St. George's-sq., Westminster, S.W.1. Dep. £3 3s.

DECEMBER 2.

Tutbury.—Extensions.—To sewerage in parish of Barton-under-Leedwood, for R.D.C. Willcox & Raikes, 33, Great Charles-st., Birmingham. Dep. £5 5s.

DECEMBER 3.

Westbourne.—Sewerage.—Sewerage and sewage disposal works, for R.D.C. S. T. Taylor, Sanitary Surveyor. Dep. £5 5s.

DECEMBER 7.

Clutton.—Sewerage.—Sewerage and sewage disposal works at Timsbury, for R.D.C. Thomas & Morgan, engineers, 23, Gelliwastad-rd., Pontypridd. Dep. £5.

Sittingbourne and Milton.—Sewerage.—Cast-iron and stoneware pipe sewers, including manholes, syphons, ventilating columns, and other works incidental thereto, for U.D.C. A. P. I. Cotterell & Son, engineers, 54, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

DECEMBER 8.

Calstock.—Water Supply.—To parish of Calstock, for R.D.C. Lemon & Blizard, consulting engineers, 24, Lockyer-st., Plymouth. Dep. £3 3s.

DECEMBER 9.

Belfast.—Shed.—Shed and collateral works on west side of turning basin, Co. Antrim, for Harbour Commissioners. T. S. Gilbert, consulting engineer, Harbour Office.

Bingham.—Manholes.—Laying of approximately 260 yds. lin. of 9-in. sewer with manholes, etc., at Works-lane, Barnstone, for R.D.C. C. W. Kendrick, S. Dep. £1.

DECEMBER 10.

Mablethorpe and Sutton.—Sewers.—Sewers and sewage disposal works, for U.D.C. Silcock & Simpson, consulting engineers, 25, Victoria-st., Westminster, S.W.1. Dep. £5.

DECEMBER 12.

Warblington and Westbourne.—Sewerage.—Laying about 17,000 lin. yds. of 6-in., 9-in. and 12-in. sanitary and cast-iron pipe sewers, with necessary manholes and flushing chambers; sewer crossings under railways, and other incidental works, for Joint Drainage Committee. Taylor & Wallin, engineers, 1, Saville-pl., Newcastle-on-Tyne. Dep. £10.

DECEMBER 14.

Middlesex.—Sewers.—Main sewers of brickwork, concrete and cast-iron segments, total length 4 miles along valley of Brent, for C.C. Dodd & Watson, engineers, Wellington-house, Bennett's-hill, Birmingham.

DECEMBER 15.

New Zealand.—Towers.—270 galvanised steel transmission line towers, complete with arms, ground stubs and accessories, for Public Works Dept. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. G.X. 10703).

DECEMBER 16.

Swansea.—Shafts.—Subaqueous tunnels and shafts, dock intake and discharge and foundations for power station at Tir John North, for C.B. Sir Cyril Kirkpatrick, consulting engineer, 25, Victoria-st., Westminster, S.W.1. Dep. £10 10s.

DECEMBER 17.

Ilkeston.—Reservoir.—Reinforced concrete reservoir, for T.C. Herbert Lapworth, E., 25, Victoria-st., Westminster, S.W.1. Dep. £5.

DECEMBER 23.

Stockholm.—Bridge.—Construction of Stockholm Western bridge, for Stockholm Harbour Board. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. G.X. 10897.)

NO DATE.

Leek.—Sewers.—Main outfall sewers, comprising 3½ miles of 15-in., 20-in., and 33-in. dia. concrete tube and cast-iron sewers, together with manholes, river and canal crossings, and incidental works; sewage disposal works, including detritus, settling, storm-water and humus tanks, percolating filters, sludge lagoons, and ancillary works, for U.D.C. W. E. Beacham, E. and S. Dep. £2 2s. each.

ROAD, SEWERAGE, AND WATER WORKS.

NOVEMBER 23.

Barnsley.—Making-up.—Of Chapel-st., Monk Bretton, and Greggs-row, Stairfoot, for C.B. B.E.

Beckenham.—Making-up.—Parts of Kent House, Churchfields, Tannsfeld and Court Downs roads, for U.D.C. H. Storr Best, S., 36, High-st. Dep. £2.

Bridlington.—Extension.—Supply and laying of water mains in Borough of Bridlington and parish of Sewerby-cum-Marton, for T.C. C. B. Newton, consulting engineer, Hull. Dep. £5 5s.

Chelmsford.—Water Supply.—Excavation and filling in of trenches in connection with laying of 5 in. and 4 in. water mains, Little Baddow-rd. and Hopping Jack-lane, Danbury, for R.D.C. T. T. Thomas, E. and S.

Exmouth.—Mains.—Cast-iron mains, hydrants and valves, etc., for U.D.C. S. Hutton, E.

Manchester.—Paving.—Margaret-st. and Stowell-st., West Gorton, for T.C. F. E. Warbreck Howell, T.C. Dep. £1 1s.

Manchester.—Paving.—Draining, paving, etc., Boardman-rd., Crumpsall (from Albert-rd. to Wilton-rd.); sewering, draining, paving (concrete), etc., passage behind 29/55, Melbourne-st., 1/9 and adjoining 1 and 9, Blackpool-st., 20/34, Walsden-st., and 2/12, and adjoining 2, Tottington-st., Clayton; and passage behind 57/71, Melbourne-st., and adjoining 38, Stanton-st., and 31, Tottington-st., Clayton, for T.C. F. E. Warbreck Howell, T.C. Dep. £1 1s.

Manchester.—Paving.—Of Belgrave-rd., Crumpsall, from Albert-rd. to Wilton-rd.; Kew-gardens, Moston, from Tyndall-av. to cul-de-sac end of street; Boardman-rd., Crumpsall, from Albert-rd. to Walton-rd.; and Dales-av., Crumpsall, from Boardman-rd. to cul-de-sac end of street, etc., for T.C. F. E. Warbreck Howell, T.C. Dep. £1 1s.

NOVEMBER 24.

Ramsgate.—Reconstruction.—Of High-st. and King-st., for T.C. J. Fluck, B.E.

Southall-Norwood.—Reconstruction.—In Allenby-rd., for U.D.C. J. B. Thomson, E. and S. Dep. £2 2s.

Southampton.—Foundations.—Foundations, superstructure, etc., for control room and switch chamber extensions, at Electricity Works, Western Esplanade, for C.B. W. G. Turner, Borough Electrical Engineer. Dep. £2 2s.

NOVEMBER 25.

Guildford.—Sewer.—660 lin. yds. of 54-in. dia. brick sewer in tunnel at depths varying between 26 ft. and 33 ft., together with manholes and incidental works, for T.C. J. W. Hipwood, B.S. Dep. £5 5s.

London.—Repaving.—Repaving in either (a) wood paving (firmoseo system) or (b) 2-in. compressed rock asphalt, of King-st., for Hammersmith B.C. R. Hampton Clucas, E. and S.

Penistone.—Main.—3 in. cast-iron water main at Thurgoland, for R.D.C. S.

Watford.—Sewer.—Laying of sewer along Gallows Hill-lane (about 240 yds. lin. of 9-in. pipes), together with manholes and other necessary works, for R.D.C. S. Dep. £2 2s.

NOVEMBER 26.

Ealing.—Making-up.—Of Allenby-rd. (west side), Greenford, for T.C. W. R. Hicks, B.E.

NOVEMBER 27.

Southampton.—Reconstruction.—Of 400 yds. of Hart Plain-av., Cowplain, for C.C. W. J. Taylor, C.S., Winchester. Dep. £1 1s.

NOVEMBER 30.

Chester.—Making-up.—New street with tar macadam surfacing; passage at rear of Raymond-st. and Garden-lane; passage at rear of Watergate-st. and Stanley-pl.; passage at rear of Watergate-st.; passage at rear of Stanley-pl.; passage at rear of Albion-st.; passage off and rear of Queen-st. and St. Thomas'-pathway, for T.C. Charles Greenwood, City E. and S. Dep. £1 1s.

Hendon.—Sewers.—At Hankins-lane and Marsh-lane, Mill Hill, for U.D.C. A. O. Knight, E. Dep. £5 5s.

DECEMBER 1.

London.—Making-up.—Of Pauntley-st., N.19, for Islington B.C. B.E.

DECEMBER 2.

Hailsham.—Sewer.—6-in. sewer, North-st. and Hugletts-lane, Heathfield, for R.D.C. W. O. Humphery, E.

Hendon.—Making-up.—6 various roads, for R.D.C. H. W. Rackham, S. Dep. £3 3s.

Hendon.—Sewer.—533 yds. lin. 30-in. surface water outfall sewer, with manholes, etc., complete, at Cannon-lane, Pinner, for R.D.C. H. W. Rackham, S. Dep. £2 2s.

Norton.—Sewerage.—At Totley, for R.D.C. S.

Wembley.—Making-up.—Of Victoria-av., Sudbury Heights-av., Part I, for U.D.C. C. R. W. Chapman, E. and S. Dep. £1 1s. each.

DECEMBER 3.

Southampton.—Road.—Demolition works, an construction of new road to Civic Centre, and construction of new road round the east side of the Bargate, for C.B. B.E. Dep. £2 2s. each.

Southend-on-Sea.—Making-up.—Of Adalia-crescent and Daines-way, Section 1, and incidental works, for C.B. Robert H. Dyer, B.E. and S. Dep. £2.

Wanstead.—Making-up.—Of Bressey-grove, Section 2, for U.D.C. E. and S.

DECEMBER 4.

Hornsey.—Road.—Making-up Wood-vale, 2nd Section, for T.C. W. H. Adams, B.E. and S.

DECEMBER 7.

St. Albans.—Sewers.—Stoneware and concrete pipe sewers, each approximately 1¼ miles in length, for T.C. City E. Dep. £2 2s.

Swinton and Pendlebury.—Sewer.—600 yds. of 27-in. and 21-in. diameter concrete tube sewer, together with manholes, etc., for U.D.C. H. Entwisle, E. and S.

DECEMBER 8.

Birmingham.—Sewerage.—3,460 yds. of brick and concrete stoneware pipe and concrete tube sewers, and about 2,200 yds. of stoneware pipe drains in Walsall-rd., Tower-hill, Queslett-rd., and in private lands, Perry Barr, for T.C. H. H. Humphries, City E. and S. Dep. £2.

NO DATE.

West Riding.—Repairs.—To asphalt playground and offices of Mexborough, Dolcliffe-rd. Council school (boys' dept.), for C.C. W. H. Jones, Education Office, Mexborough.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed' works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Adwick-le-Street.—Site been acquired upon which West Riding E.C. propose secondary school.

Alfreton.—U.D.C. propose 28 non-parlour type houses at Riddings and 96 houses in Lincoln-st., Colliery-rd. and Nuttall-st. R. F. Ward, S.

Barnes.—U.D.C. approved: 10 garages, Riverview-gdns., A. Cox; 6 garages, Enmore-gdns, D. Ainslie; lock-up shop, 3 garages, and 2 store sheds, adjoining 13, Fitzgerald-rd., J. P. Henry.

Bedlington.—Plans prepared by C. F. Murphy, Lloyds Bank-chambs., Morpeth, for reconstruction of school under Bishop of Newcastle's Church Extension Fund. Contract not placed.

Bellshill.—New housing scheme to be undertaken by Lanarkshire C.C. P. Smith, architect, Clydesdale-st., Hamilton.

Beverley.—It is proposed to make additions to County Hall for East Riding C.C. B. B. Stamford, county architect. Tenders invited.

Birmingham.—High-class shop premises at corner of Stratford-rd. and Solihull-lane, Hall Green. Plans by Harford, Kingham & Nock, architects, 117, Colmore-row.

Birstall.—Scheme for enlargement of the National schools at £3,000 being considered by West Riding E.C.

Blackpool.—H. F. Keighley, L.R.I.B.A., 113, Topping-st., architect, for warehouse off Chaunce-st., and lay-out for 22 houses off Layton-rd., for A. Wilson and others.—E. D. Dennis, architect, 27, Birley-st., preparing plans for lay-out of estate, construction of streets and sewers and erection of 70 houses on land off Watson-st., South Shore, for J. W. Harrison, Meresley, Preston New-rd., Marton.

Blackpool.—E. Wilkinson, 23, Cumberland-av., preparing plans for garage and petrol filling station, Central-drive.—J. C. Derham, architect, Tower-chambs., Church-st., preparing plans for rebuilding "Fairyland," Central Beach.

Bolton.—J. Baxendale, architect, 33, Penarth-rd., preparing plans for elementary school for 400 children, for Catholic Authorities.

Boston.—T.C. approved: extensions to factory in North-st., Fisher, Clark & Co., Ltd.; extension, factory in Norfolk-st., English Preserved Foods, Ltd.

Bradford.—W. Middleton, builder, Thackley, to erect 40 houses, Stones-lane, Queensbury.

Cambridge.—T.C. approved: Alterations and additions, the "Bird-in-Hand," Newmarket-rd., Greene, King & Sons, Ltd.; extension to X-Ray Department, Trumpington-st., Governors of Addenbrooke's Hospital; stores and sub-station, Thompson's-lane, Cambridge Electric Supply Co., Ltd., Market-hill; 20 houses, Cherryhinton-rd., J. R. Bennett & Sons, Catharine-st.

Cannock.—R.D.C. approved: 8 houses, Gaius Dando, and other houses at Churchbridge and Great Wyrley, F. Bishop, A. E. Smith and J. T. Bullock.

Canterbury.—T.C. approved: 6 houses, Whitstable-rd., H. V. Henshaw.

Carnbrae.—Lanarkshire C.C. to proceed with new housing scheme. P. Smith, architect, Clydesdale-st., Hamilton.

Carstairs Junction.—Lanarkshire C.C. to erect houses at Carstairs Village and Carstairs Junction. P. Smith, architect, Clydesdale-st., Hamilton.

Chapelhall.—Under the Improvement Trust scheme Lanarkshire C.C. to erect 40 houses. P. Smith, architect, Clydesdale-st., Hamilton.

Chepping Wycombe.—T.C. approved: 18 houses, Fennels-rd., T. H. Isted; 8 houses, Herbert-rd., High Wycombe and District Housing Society, Ltd.; 6 houses, Chairborough-rd., W. H. Soden.

Chorley.—Park Hall estate been purchased by L. Sagar, Highgrove, Eccleston, near Chorley.

Coulsdon and Purley.—U.D.C. approved: Hooker & Rogers, 2 pairs semi-detached houses, Lime Meadow-av., Sanderstead; P. Richardson, 5 pairs semi-detached houses, Woodlands-grove, Coulsdon; The Caterham Motor Co., Ltd., steel framed garage, rear of showrooms, Brighton-rd., Purley; J. P. Warren, 2 detached houses, Purley Downs-rd., corner of Norman-av., Sanderstead.

Cramlington.—C.W.S. to erect hall at Annitsford. —New school proposed by Northumberland C.C. to accommodate 360 pupils, at £12,340. W. W. Tasker, F.R.I.B.A., 17, Claremount-pl., Newcastle-on-Tyne.

Denholme.—R.D.C. secured site for 12 additional houses. E. Hill, S.

Dublin.—Plans approved by City Architect: Imaal-rd., Cabra, 4 lock-up shops, R. T. Dale; 10, Kildare-st., alterations, Guardian Assurance Co.

Durham.—County E.C. agreed provisionally to purchase school sites at Murton (£500); Willington (£690) and Billingham (£1,153). They have arranged for school to be built by direct labour at Ryton at £16,758, and schools at Seaham Harbour to be enlarged at £4,568 and £5,400, Birtley Ravensworth-terr. school to be enlarged at £7,271, by direct labour.

Ealing.—Plans passed:—S. Smith, 10 houses, Greenford-rd.; R. Sowery, architects, W. H. Read & Co., Ltd., 42, Haven-green, W.5, 2 blocks of flats, Park-hill and King's-rd.; Watney, Combe, Reid & Co., architects, F. J. Fisher & Son, additions to "White Hart," Greenford-rd.; C. Popplate, lay-out for 94 houses, Clauson-av.; Smith & Turner, architects, Nowell Parr, alterations and additions to "Fox and Goose," Hanger-lane; R. Costain & Sons, Ltd., 7 and 8, Norfolk-st., W.C.2, 99 houses, proposed in Berkeley-av.; A.R.P. Studios, store buildings, etc., at Ealing Green, R. Atkinson, architect, 126, Wigmore-st., W.1.

Embleton.—Bolton Bros., Front-st., to have extensions carried out to premises.

Evesham.—S. to R.D.C. instructed to draw plans for 6 Council houses at Childswickham, while clerk was ordered to apply for sanction to build Council houses at Hinton-on-the-Green.

Flixton.—P.C. approved plans for 10 houses, Wyndcliff-drive, for D. Franklyn.—Longworth & Taylor, builders, 2, Queen's-rd., Urmston, to lay-out estate off Church-d., for houses and shops. Plans provide for roads and 116 semi-detached houses. Leech & Ratcliffe, architects, 7, Cheapside, Manchester.

Forth.—Plans prepared and alternative plans to be prepared in connection with the reconstruction and provision of school accommodation. J. Stewart, architect, Motherwell.

Friern Barnet.—U.D.C. approved: 2 blocks of flats in Friern Barnet-rd., G. Green; 6 houses, Gresham-av., Frampton & Palmer.

Fylde.—R.D.C. approved: T. Ward, 5 houses, Thompson-st., Wesham; Beardshaw & Boardman, 16 houses, Ensleigh-gdns., Marton; W. H. Airey, 8 houses, Blackpool-rd., Hardhorn; W. Hornby, 34 houses, Patterdale-av. and Pittsdale-av., Marton; Rimmer & Foster, 98 houses, Ivy-av., Marton.

Gateshead-on-Tyne.—Stienlet & Maxwell, 5, Saville-chambs., Newcastle, preparing plans for new R.C. school to accommodate 200 children.

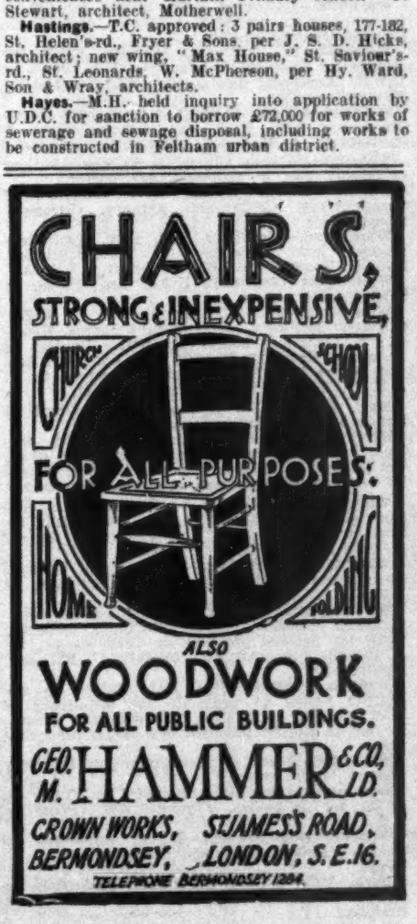
Gillingham.—Alterations and improvements to premises in Nelson-rd., for Maidstone and District Motor Services, Ltd., Knightrider House, Knightrider-st., Maidstone. Plans by F. W. Ruck & Smith, F.R.I.B.A., architects, 86, Week-st., Maidstone.

Glasgow.—Certain parts of the River Clyde banks between Rutherglen bridge and Dalmarnock-rd. bridge, etc., to be repaired. Thomas Somers, City E.

Harthill.—Lanarkshire C.C. to provide public conveniences near Harthill Primary school. J. Stewart, architect, Motherwell.

Hastings.—T.C. approved: 3 pairs houses, 177-182, St. Helen's-rd., Fryer & Sons, per J. S. D. Hicks, architect; new wing, "Max House," St. Saviour's-rd., St. Leonards, W. McPherson, per Hy. Ward, Son & Wray, architects.

Hayes.—M.H. held inquiry into application by U.D.C. for sanction to borrow £72,000 for works of sewerage and sewage disposal, including works to be constructed in Feltham urban district.



*See also List of Contracts, Competitions, etc.

Hertfordshire.—C.C. decided to purchase land in Blindman's-lane, Cheshunt, as site for an elementary school; land at Littlegrove, East Barnet, as site for senior County Council school; land at Sandon for school.

Hyde.—Providence Mill been acquired by Griffiths, Hughes, Ltd., the Manchester firm of manufacturing chemists, and they are expected to start alterations at once.

Isle of Man.—Port St. Mary Commissioners to borrow £500 for carrying out certain improvements in Chapel Bay and at Upper Promenade.

Lanark.—Improvement Trust houses to be erected by Lanarkshire C.C. P. Smith, architect, Clydesdale-st., Hamilton.

Lanarkshire.—Plans to be prepared in connection with the provision of accommodation for school children at Carmyle and Mount Vernon Primary school. J. Stewart, architect, Motherwell.

Lancashire.—C.C. propose reconstruction of Burscough Railway bridge, Twist-lane bridge and Lover's-lane bridge, at £9,000. Plans by P. Schofield, County Surveyor and Bridgemaster, Preston.

Leeds.—Parochial hall to be built at St. Augustine's Church, Wrangthorn, at £4,500. Tenders invited.—Alterations and additions are to be carried out at "Commercial Inn," Kirkstall, for John Smith's Tadcaster Brewery Co., Ltd. Tenders invited.—A. McCarmick & Son are to reconstruct premises at 213, Kirkstall-rd. Plans by F. Mitchell & Son. Tenders invited.

Liverpool.—B. A. Miller, 3, Abercromby-sq., architect, for church on Pinehurst-av. and Pinehurst-rd., for Vicar, Rev. J. H. Foy.

Liverpool.—Licensing Justices sanctioned plans for extension, at £15,000, of "Cattle Market" Inn, 329, Prescot-rd., Fairfield, which adjoins the new Corporation abattoir.

London (Bermondsey).—B.C. received L.C.C. sanction to borrowing £14,000 for housing purposes.

London (Greenwich).—L.C.C. recommend borrowing by B.C. of £1,200 for depot purposes in Tunnel-av.

London (Hackney).—L.C.C. recommend £800 for provision of cold storage at Hackney hospital.

London (Woolwich).—L.C.C. recommend borrowing by B.C. of £55,035 for housing purposes at Middle Park and £4,638 for market purposes at Messiter-place, Eltham.

Low Blantyre.—Lanarkshire C.C. to erect 60 houses near Church-st. P. Smith, architect, Clydesdale-st., Hamilton.

Lowestoft.—T.C. to spend £150 on repairs to Connaught House.—E.C. to purchase land adjoining Morton-rd. school.

Manchester.—North Western Road Car Co., Ltd., 120, Charles-st., Stockport, propose additions to omnibus garage on Hulme Hall-rd., Hulme. Plans by G. Westcott, F.M.S.A., 13, Bridge-st.—Cruickshank & Seward, A. and L.R.I.B.A., architects, 18, Booth-st., preparing plans for commercial garage, etc., in Bombay-st. and Sackville-st., for Sackville Estates, Ltd.—Manchester Garages, Ltd., propose showroom and offices, Oxford-rd. and High-st., Chorlton-on-Medlock. Plans by G. Westcott, F.M.S.A., 13, Bridge-st.—Trojan Manufacturing Co., Ltd., 74, Grosvenor-st., Ardwick, propose conversion of house, "Epworth House," Plymouth-grove, into workrooms. Plans by J. H. Toft, resident architect.—Plans approved: Broughton & Atkinson, for G. Hodson, 14 houses, Claxton-av., Hill-lane, Blackley; J. E. Kewell, for W. H. Coupe & Co., 14 houses, Hillside-close, Meadow-way, and Tyndall-av., Moston; Commercial Estates, 8 houses, Errwood-rd. and Mauldeth-rd., Burnage; F. Annable & Son, 10 houses, Farrer-st., Rusholme; Commercial Estates, 9 houses, Burnage-lane, Errwood-rd. and Mauldeth-rd., Burnage; J. Dalby, for Sparke & Stephens, 11 houses, Manchester-rd. and Macauley-av., Chorlton-cum-Hardy; W. H. Carrington & Son, Ltd., Thomas-st., propose alterations to premises Thomas-st. and Back Thomas-st. Plans by A. Clayton, L.R.I.B.A., architect, Duchy-chmbs., Clarence-st.—Yates Brothers & Co., Ltd., 64, Tib-st., propose alterations to premises, Oldham-st. and Back, Piccadilly. Plans by G. Westcott, F.M.S.A., 13, Bridge-st.—H. Hankinson, F.A.S.I., architect, 2, Ashley-rd., Altrincham, prepared plans for billiards hall, Kingsway Burnage, for J. Buckley, of Pinner, Middlesex.

Melbourn.—R.D.C. to build 12 houses at Litlington.

Meriden.—R.D.C. approved: 6 houses, Gaveston-rd., Coundon, for J. H. Breeze; 5 houses, Westhill-rd., Coundon, J. H. Breeze; 12 houses, Woodclose-av., Coundon, R. H. Bridge & Co.; 6 houses, Courtland-av., Coundon, T. W. Roulston; 6 houses, Woodclose-av., Coundon, Wm. Isaacs.

Middlesbrough.—T.C. approved: new pavilion and extensive additions at St. Mary's College, Eastbourne-rd., Marist Fathers, St. Mary's College, Eastbourne-rd.; petrol filling station at builders' yard premises, Stonehouse-st., South Side, J. W. Crombie; 7 houses, Lancaster-rd., Linthorpe, G. Humphrey; 8 houses, Carlow-st., C. H. Webster.

Mossend.—Plans to be prepared for new housing scheme by Lanarkshire C.C. P. Smith, architect, Clydesdale-st., Hamilton.

Neath.—R.D.C. to invite fresh tenders for houses.

Newcastle-on-Tyne.—City Council recommended sanction to land in Northumberland-rd., at £11,130, for site for school.—Liddell & Bachelor, 12, Eldon-square, architects for warehouse in Pilgrim-st., for Higginbottom & Co. Contract not placed.—Council approved plans: 20 houses, Blackwell-av., J. J. Hedley; 16 houses, Clifton-rd., J. McEwan; 12 houses, Middleton-av., C. Graham; 12 houses, Baret-av., N. Willis.—Police station to be converted into school for 180 children, for City

Council. W. J. Steele, City E.—Plans approved for club premises and shops in Percy-st., for Poor Children's Holiday Association. Cost £30,000. Cackett, Burns Dick & MacKellar, 21, Ellison-place, architects.—Factory at Bigg Market, for Sinton & Baxter. Marcus K. Glass, architect, 20, Saville-row.—Linay Concrete Machinery Co., Ltd., propose fitting shop in Back Maling-st. Contract not yet placed.—Housing Committee to buy land near St. Anthony's-rd., from L.N.E.R., for housing purposes.—Rev. R. Hale endeavouring to raise £3,000 for completion of St. Luke's Church.—It is proposed to erect vicarage at St. Anthony's Church. Plans by Hicks & Charlewood, 4, Mosley-st.—Wood & Oakley, 9, Eldon-sq., architects, for vestry at St. Luke's Church, Claremount-rd. — Alterations to Lloyds Bank premises in Scotswood-rd.—" Lord Wharncliffe " Hotel to be rebuilt to plans by Hetherington & Wilson, 52, Westgate-rd. No contract let.—Housing Committee invites tenders for 10 houses, High Heaton estate.—Town Improvement Committee to proceed with garage and refuse destructor on Grey's brickfield, Byker. F. M. Dryden, architect, Market-st.

New Mills.—Co-operative Society, Ltd., propose dairy at Compstall-rd., Marple Bridge. Plans by Architects' Dept., Co-operative Society, Ltd., Balloon-st., Manchester.

Newport Pagnell.—R.D.C. recommend site at Lavendon for housing. Council proposing houses at Castlethorpe.—Sites being considered at Bradwell for houses.—Plans passed: 12 new houses on Weston-rd., Olney, for R.D.C.

Newton. — Lanarkshire C.C. considering new temporary school. J. Stewart, architect, Motherwell.

Northampton.—C.B. to invite tenders for 230 houses on Kettering-rd. estate.—Plans passed: 6 houses, Ardington-rd., W. C. Throssell & Co.

Northumberland.—C.C. negotiating for sites for new schools at Ashington Hirst, Bedlington Village, Earsdon (East Holywell), Longbenton (Forest Hall). County Architect, W. W. Tasker, F.R.I.B.A., 17, Claremount-place, Newcastle-on-Tyne.

Plymouth.—T.C. approved: W. Andrews, 12 houses, Cresthill estate; J. W. Binmore, 8 houses, Cresthill estate; Millbay Laundry Co., alterations and additions, Battery-st.; J. Neal, 6 houses, Ridge Park-rd.; W. Holmes, 6 houses, Ridge Park-rd.

Port Talbot.—T.C. are seeking compulsory acquisition of land at Sandfields, Aberavon, and on Margam-rd., Port Talbot, for erection of new municipal houses.

Preston.—E.C. propose to convert premises in Memorial-rd., Walkden, for offices and erect branch library on adjoining land. County Architect, S. Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston.—Lancashire County Public Assistance Committee appointed Gibbs & Partner, Lune-st., Preston, as consulting engineers for installation electric light throughout institution in lieu of gas.

Queensbury.—Council passed plans for 40 houses in Stones-lane, for W. Middleton, Thackley.

Renfrew.—New civil air port to be constructed near Renfrew Aerodrome by Corporation. Kyle, & Frew, civil engineers, 227, West George-st., Glasgow. Abercrombie & Steel Maitland, architects, Gilmour-st. Corner, Paisley.

Richmond (Yorks).—It is proposed to make alterations to cafe and shop premises in High-row belonging to C. W. Jackson. Wetherell & Dent, LL.R.I.B.A., High Row-chams., architects. Tenders invited.

Roby.—Lay-out plan for 1,400 houses and 60 shops on Page Moss estate been approved by Huyton with Roby U.D.C.

Rotherham.—Council recommend extensions of the sewage disposal works at Swallownest, Wickersley, and Listerdale, at £16,200.—Council proposed 150 further houses.—James Totty, architect, of Rotherham, informed Council that price of portion of Park Hill estate, Swallownest, containing four acres, which he suggested Council should purchase for housing purposes, was £4,840.

Rushden.—U.D.C.: 12 houses, Shirley-rd., Mrs. J. White.

Ryhope.—Hall to be erected for Salvation Army in Burdon-lane. Plans by O. Archer, Salvation Army Headquarters, Queen Victoria-st., London, E.C.4. Contract not placed.

Ryton-on-Tyne.—M.H. sanctioned borrowing of £33,000 by U.D.C. for 100 houses.

Salford.—W. W. Hill, Son & Wallace, Elton-st., Lower Broughton, proposing to rebuild works. Bain & Johnson, F. & A.R.I.B.A., architects, 38, Albion-st., Leeds.

Salsburgh.—Twenty houses to be erected by Lanarkshire C.C. P. Smith, architect, Clydesdale-st., Hamilton.

Sandbach.—Conlows, Ltd., artificial silk manufacturers, Brown-st. Mills, Congleton, acquired Town Mill for extensions.

Seaham.—Durham C.C. is erecting extensive additions to Seaham Hall Sanatorium at £30,000.

Seaton Delaval (Northumberland).—C.C. to proceed with additions to Astley Central Council school at £8,900. County Architect, W. W. Tasker, 17, Claremount-place, Newcastle-on-Tyne.

Sheffield.—Vicar, Rev. J. G. Speakman, and members of St. Aidan's Church, Sheffield, proposing church, at £10,000. Plans by C. B. Flockton & Son, F.R.I.B.A., architects, 15, St. James'-row.—Brightside & Carbrook Co-operative Society propose shop premises on Manor estate. Plans by Architects' Department, C.W.S., Balloon-st., Manchester.—Trustees of Wesleyan Reform Church propose chapel in Richmond district, at £1,450.

Skipton.—R.D.C. to adapt premises in Granville-st. for offices.

Southend-on-Sea.—T.C. approved: 17 houses, Crowborough-rd., S. & A. Riley; 20 flats, Westbourne-grove, G. H. Davis & Son; 4 shops and 8 flats over, and 2 shops and houses, Broadway-west, Dr. W. D. Watson.

Southport.—Contract still to be placed for Roman Catholic Church. F. Coyle, Newmarket-st., Consett, architect.

Southport.—F. Valarde, A.R.I.B.A., 3, Abercromby-sq., Liverpool, preparing plans for Catholic Church at Hill Side, Birkdale.

South Shields.—T.C. approved; Office, Alexandra-st., Hanlons, Ltd.; 10 houses, Sunderland-rd., J. T. Armstrong & Son; 6 bungalows, Marsden-rd., Lisle-rd. and Summerhill-rd., J. H. Woolgar; 5 shops, at South-av., Thos. Thompson.

South Shields.—Town Planning Committee asked Health Committee to give up portion of land near Quarry-lane for erecting houses for aged people. J. P. Watson, B.E., Town Hall.

Springwells.—Lanarkshire C.C. to erect 20 houses. P. Smith, architect, Clydesdale-st., Hamilton.

Stockport. — Armstrong Saurer Commercial Motors, Ltd., Broadway-buildings, Broadway, London, S.W.1, acquired buildings in Reddish-rd., Reddish, near Stockport, for adaptation as Manchester Service Depot and to house motor vehicle department.

Sunbury.—M.H. held inquiry into application of U.D.C. loan of £160,952, for sewerage at Greater Sunbury.

Sunderland.—County magistrates consented to alterations to "Three Horse Shoes Inn," North Hylton.

Sunderland.—Plans been prepared by Cowe & Lawson, Central-chambs., Chester-le-Street, for extensions to "Grand Hotel."—Tenders invited for alterations and improvements to 'Salutation Hotel." Plans by Cowe & Lawson, Central-chambs., Chester-le-Street.—Plans prepared by F. Caws, Fawcett-st., but no contract been let for new cloakrooms at St. Thomas's Church.

Tamworth.—R.D.C. accepted tender of £22,890 for 42 three-bedroom houses and 36 two-bedroom houses at Kingsbury, at £305 and £280 per house respectively.

Thornaby-on-Tees.—T.C. approved 101 new houses on Thornaby Grange site. W. E. Orchard, B.E.

Twickenham.—Plans passed by T.C.: Gale, Heath & Smeath (for Bagley Estates, Ltd.), 4 shops with living accommodation over; Pascall & Son, 9 houses, Kneller-rd.; G. Heath, 16 houses, facing Staines-rd. and Fielding-av.; J. Beasley & Son, block of 4 flats; W. J. Shepherd, showroom, Third Cross-rd.

Tynemouth.—Licensing justices approved plans for alterations and improvements to "Grand Hotel" for J. Radcliffe.

Uddingston.—Under the Improvement Trust scheme Lanarkshire C.C. to erect 32 houses. P. Smith, architect, Clydesdale-st., Hamilton.

Urmston.—T. H. Mitchell, builder, Cornhill-rd., Davyhulme, Manchester, to lay-out housing estate on land between Davyhulme-rd. and Carr's-rd.

Wakefield.—Borrowing being sought for £39,000 for erecting 100 houses at Eastmoor, and £20,000 for other housing schemes.

Wallsend.—T.C. approved amended plans for garage for Co-operative Laundries, Ltd. Plans by C.W.S. Architects Dept., 90, Westmoreland-rd., Newcastle-on-Tyne.

Wallsend-on-Tyne.—Contract not yet been placed for church hall, High Farm estate. Hicks & Charlewood, 4, Mosley-st., Newcastle, architects.

Walsall.—Wesleyan Authorities propose additions to schools. Rev. W. Clifford Caddy, pastor.

Walton.—Council approved: A. W. Sheppard, 23 semi-detached houses and garages, Claremont House estate.

Warrington.—Electricity and Gas Committees propose joint showrooms in Buttermarket-st. S. A. H. Mackey, A.R.I.B.A., architect, 2, Bold-st.

Washington (Durham).—U.D.C. has scheme in hand for 242 houses.

West Hartlepool.—T.C. approved: J. C. Moffat, 6 houses, Melrose-st.; F. Craven, 6 houses, Moore-st.; F. Craven, 9 houses, Moore-st.; Trustees of Primitive Methodist Chapel, new Sunday school and lecture hall, Hart-rd., and Furness-st., C. M. & J. H. Yuill, 11 houses, Marlborough-st.

West Riding.—C.C. propose assembly hall at Middleton-in-Wharfedale Sanatorium.

Whitby.—U.D.C. decided to proceed with continuation of sea wall to Happy Valley at £8,400 and to apply to M.H. for sanction and also £20,500 for working-class dwellings on Gallows-close estate.

Wigan.—George Heaton & Sons, architects, Station-chambs., 60a, Wallgate, preparing plans for greyhound racing track in Poolstock, for T. Kenyon, 27, King-st.

Wingate.—Federal dairy to be erected by local Co-operative Societies at Wellfield Junction, at £20,000.

Wolverhampton.—W. N. Twist, F.R.I.B.A., Sunbuildings, Bennett's-hill, Birmingham, preparing plans for licensed premises on Thompson-av., for J. Davenport & Sons, Ltd., brewers, 77, Bath-row, Birmingham.

Wootton Bassett.—Wilts E.C. decided to ask District Valuer to negotiate for acquisition of land belonging to H. Dale, near recreation ground, for use as site for proposed new senior school for area.

Worcester.—Board of Management of Infirmary propose boiler house.

Workington.—Sanction received by T.C. to £9,761 for 26 houses, Frostoms site. Plans by B.E.

Yiewsley and Drayton.—U.D.C. approved: 64 houses, Pinglestone-close, Harmondsworth, W. Light.

York.—T.C. propose additional classrooms to Skinton-st. schools, at £2,000. F. W. Spurr, City Architect.

TRADE NEWS

The Mansion House.

In connection with the restoration scheme at the Mansion House, illustrated in our issue for November 6, we are informed that the important waterproofing work, which was of considerable extent, was carried out by the Ragusa Asphalte Paving Company, Ltd., of 25-27, Oxford-street, W.1.

Bridlington's New Mayor.

Councillor J. A. Dew, J.P., managing director of Messrs. Sissons Brothers and Co., Ltd., the Hull varnish, enamel, paint and colour manufacturers, has been unanimously elected Mayor of Bridlington for the ensuing year. Councillor and Mrs. Dew have filled, with much distinction, the offices of deputy-Mayor and Mayoress in the past two years.

An Insulating Board.

The Anglo-Colonial Trading Corporation, Ltd., inform us that from now on they have arranged that the Merchant Trading Co., Ltd., 52, Bishopsgate, E.C.2, shall deal with all orders for "Donnacona" insulating board, and will act as sole distributors of this board in the United Kingdom. Some members of the Anglo-Colonial staff will join the Merchant Trading Company. The Anglo-Colonial Trading Corporation will continue, however, to handle "Riverbank" building blanket in this country.

Colour in Concrete.

An exhibition of modern decorative treatments by the use of white and coloured cements was opened at Portland House, Tothill-street, S.W.1, on November 16. The exhibition consists of over seventy panels showing different types of finishes obtained mainly by the use of "Snowcrete" and the new "Tintocrete" patent cement-spraying process. The finishes have been obtained after a great deal of research work and give a new aspect to the colouring of cement and concrete. The exhibition is open daily between the hours of 10 a.m. and 4.30 p.m. (Saturdays 10 a.m. and 1 p.m.), until November 28.

New League of Nations Buildings, Geneva.

It is understood, says the *Board of Trade Journal*, that there are many contracts in connection with these buildings which have not yet been placed, and that it is not too late for those firms desirous of receiving an opportunity of tendering to take the necessary steps to register their names and reference with the Secretariat of the League. It should be emphasised that only firms included in the list of approved contractors will be permitted to tender. Further particulars in regard to the procedure to be followed by firms wishing to register may be obtained by United Kingdom firms interested in this matter on application to the Department of Overseas Trade, 35, Old Queen Street, London, S.W.1. (Ref. C. 3715 should be quoted.)

New Metal-Covered Plywood.

Messrs. Fredk. Braby and Co., Ltd., have recently secured the sole rights of a new kind of metal-covered plywood. They have just equipped a special factory with the necessary machinery at their Eclipse Steel Works, Glasgow. The product consists of thin sheets of plywood to which galvanised sheet steel or other sheet metal is cemented by hydraulic pressure on one or both sides, and the cementing composition is of such a nature that neither moisture, heat, water, nor force can separate the metal from the plywood, and the finished panel is dead flat and smooth. On account of its great strength, rigidity, light weight and freedom from warping, it is specially suitable for the body work and dash boards of motor vans, coaches and cars; and also for ships' cabins, doors and refrigerator holds; and for modern building construction in the shape of partitions, doors, fancy panelling, steel furniture equipment, and shop fronts. It will also be available for roofing purposes either flat or corrugated. In addition to galvanised steel sheet covering, the plywood can also be supplied covered with stainless steel, bronze, copper, zinc or aluminium. Its trade mark is to be "Eclipse."

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

[PRINCIPAL CHANGES OF THE WEEK.—A drop of 10s. per ton in Sheet Lead is the only change recorded this week.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.	£ s. d.		£ s. d.
Flettons, at	2 11 3	Best Blue Pressed Staffs	9 5 0
King's Cross Do., grooved for Plaster	2 13 3	Bo. Bullnose	9 15 0
Do., Bullnose	3 5 3	Blue Wire Cuts	7 5 0
White Midhurst Facing Bricks (delivered London site)	5 0 0		

Best Stourbridge Fire Brick:—
2½ in. ..... 8 11 0 3 in. 10 3 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
Headers	20 10 0	One Side and two Ends	30 10 0
Quoins, Bullnose and 4½ in. Flats	27 10 0	Two Sides and one End	31 10 0
		Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours Hard Glaze £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. "	3 6

	s. d.	
Thames Ballast	8 0 per yd	delivered 2 miles radius Paddington
Pit Sand	11 0 " "	
Thames Sand	11 0 " "	
Best Washed Sand	11 6 " "	
¾ in. Shingle for Ferro-Concrete	8 6 " "	
½ in.	11 0 " "	
¼ in. Broken Brick	10 6 " "	
Pan Breeze	8 0 " "	

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification. Test £2 2 0 to £2 4 0
35s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 7 6
Vitocrete " "	0 7 6
Super Cement (Waterproof)	12 0
Ciment Fondu (F.O.R. Works)	4 15 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" Pink	5 10 0
Plaste ,Coarse, Pink	3 0 0
" White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 10

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station per ft. cube 2 3
Delivered free on rail Nine Elms, S.R., per ft. cube 3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4½
Do. do. delivered on road wagons at above stations, per ft. cube 4 5½
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

CHILMARK—RANDOM BLOCK—
At Nine Elms, per ft. cube 3 11

HOPTON-WOOD STONE—
F.O.R. Quarries, Wirksworth, Derbyshire, s. d.
Random blocks from 10 ft. and over P. ft. cb. 14 0
Sawn two sides ..... " 22 6
Sawn three or four sides ..... " 27 6

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... Per ft. super 5 6
6 in. rubbed two sides, ditto ..... " 6 0
2 in. sawn two sides slabs (random sizes) " 2 3½
1 in. to 2½ in. sawn one side slabs (random sizes) ..... " 1 6½
1½ in. to 2 in. ditto, ditto ..... " 1 3½

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks ..... Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super 5 1½
6 in. rubbed two sides, ditto ..... " 6 1½
4 in. sawn two sides slabs (random sizes) " 2 1½
3 in. ditto ditto " 1 10
2 in. self-faced random flags ..... Per yd. super 8 0

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 6d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£27 10	3 × 6	£19 0
4 × 9	26 0	3 × 11	20 0
4 × 8	25 0	2 × 11	21 0
4 × 7	20 0	3 × 9	19 0
3 × 8	20 0	2½ × 9	20 0
3 × 7	20 0	3 × 4½	19 0
2½ × 7	19 0	3 × 4	19 0

PLANED BOARDS.

1 × 11	£26 0	1 × 9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	18/-	1¼	28/-
¾	19/-	1½	30/-
1	22/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.
1	22/6
1¼	27/-
1½	30/-

MATCHING (BEST).

Inches.	per sq.
⅝	15/-
¾	17/-
1	22/-

Ins. BATTENS.	s. d.
¾ × 2 ..... per 100 ft.	2 3

SAWN LATHS.

	s. d.
Per bundle	2 0

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 18 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	£4 10 0 to —
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 0 0	18 by 10	17 5 0
22 by 12	27 19 6	18 by 9	15 10 0
22 by 11	25 5 0	16 by 10	14 14 6
20 by 12	24 7 6	16 by 8	11 5 0
20 by 10	20 17 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000. f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£5 2 6
ditto hand-made ditto	5 7 6
Ornament 1 ditto	5 12 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ½ in.	10 15 0
⅜ in.	11 0 0	¾ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Tubes. Genuine Staffs. Iron.	Fittings. ¼ in. and under.	Fittings. Over ¼ in.	Flanges. ¼ in. and under.	Flanges. Over ¼ in.
	%	%	%	%	%	%
Gas	62½	50	45	47½	52½	57½
Water	58½	46½	40	42½	50	52½
Steam	55	42½	35	37½	45	47½
Galv. gas	50	37½	35	37½	45	47½
Galv, water	45	32½	30	32½	40	42½
Galv. steam	40	27½	25	27½	35	37½

*O.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7½d.	2½d.
3½ in.	10½d.	8½d.	2½d.
4 in.	10½d.	9½d.	2½d.
4½ in.	11½d.	10½d.	2½d.
5 in.	1/1½	11½d.	3½d.

*O.G. GUTTERS.

3 in.	1/0	10½d.	2½d.
3½ in.	1/0½	10½d.	2½d.
4 in.	1/1½	10½d.	2½d.
4½ in.	1/2½	1/0½	2½d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6ft. Pipe.		Bends, stock Branches, angles, stock angles.	
2 in. plain	1/2½	9½d.	1/2
2½ in. "	1/3	10½d.	1/4
3 in. "	1/6½	1/1½	1/8½
3½ in. "	1/11	1/4½	1/11½
4 in. "	2/2½	1/7½	2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipes, angles, stock angles. s. d.	Bends, stock Branches. s. d.	s. d.
2 in. per yd. in 6 ft. plain	2 1½	1 6½	1 10½
2½ in. "	2 6	1 8½	2 4
3 in. "	2 8	1 10½	2 9½
3½ in. "	2 10½	2 4	3 3
4 in. "	3 3	2 7½	3 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe, angles, stock angles. s. d.	Bends, stock Branches, s. d.	s. d.
3 in. per yd. in 9 ft. length	3 6	4 3	5 5
	cwt. qr. lbs.		
4 in. "	1 1 20	5 2	8 10
5 in. "	1 2 22	6 3	9 0 14 3
6 in. "	2 0 6	6 11	10 11 18 1

Gaskin for jointing 41/- per cwt.

IRON—	Per ton in London. £ s. d.	£ s. d.
Common bars	10 10 0 to	11 0 0
Staffordshire Crown Bars Good merchant quality	10 15 0 to	11 10 0
Staffordshire Marked Bars	14 0 0 ...	15 0 0
Mild Steel Bars	9 10 0 ...	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 0 0 ...	9 0 0
Hoop iron, basis price	11 0 0 ...	12 0 0
" Galvanised ...	27 0 0 ...	28 0 0
Soft Steel Sheets, Black— Ordinary sizes, to 20 g. ...	11 0 0 ...	11 10 0
" " " 24 g. ...	12 0 0 ...	13 0 0
" " " 26 g. ...	14 0 0 ...	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	13 10 0 ...	14 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	14 10 0 ...	15 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	17 10 0 ...	18 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets— Ordinary sizes 6 ft. to 9 ft. to 20 g.	13 0 0 ...	14 0 0
Ordinary sizes 6 ft. to 9 ft. to 22 g. and 24 g.	14 10 0 ...	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0 ...	17 10 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	18 0 0 ...	19 0 0
Best Soft Steel Sheets. 22 g. and 24 g.	20 0 0 ...	22 0 0
Best Soft Steel Sheets, 26 g.	21 10 0 ...	23 0 0
Cut Nails, 3 in. to 6 in. ...	15 0 0 ...	16 0 0
(Under 3 in. usual trade extras.)		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	23 0 0
Pipe in coils	23 10 0
Soil pipe	26 10 0
Compo pipe	27 0 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills per ton	£13 0 0

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	0 9½
Strong sheet "	0 10
Thin "	0 11
Copper nails "	1 0
Copper wire "	0 11

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
29/- 45/- 76/- 153/- 246/- 510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/6 62/- 92/- 174/- 300/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.
½ in. ¾ in. 1 in.
39/6 60/- 116/6 per doz.

CAPS AND SCREWS.
1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
7/6 10/- 14/- 28/- 30/- 42/- per doz

DOUBLE NUT BOILER SCREWS.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.
1¼ in. 2 in. 3 in. 3½ in. 4 in.
10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.
½ in. ¾ in. 1 in. 1¼ in. 1½ in.
35/- 56/- 98/- 102/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.
1¼ in. 1½ in. 2 in. 3 in.
8 lbs. P. traps ... 33/- 41/- 56/- 101/- per doz.
8 lbs. S. traps ... 35/- 45/- 66/- 126/- "

TIN.—English Ingots, 1/4 per lb. SOLDER.—Plumber's 8d., Tinsmen's 9d., Blowpipe 10d. per lb.

*The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*cont.*)

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes ..... per gallon ...		0 2 3
" " " in barrels ... " ...		0 2 5
" " " in drums ... " ...		0 2 8
Boiled " " in barrels ... " ...		0 2 8
" " " in drums ... " ...		0 2 10
Turpentine in barrels		0 4 4
" in drums (10 galls.) " ...		0 4 7
Genuine Ground English White Lead, per ton		47 10 0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

GENUINE WHITE LEAD PAINT.
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganwyte," "Polsco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots. £ s. d.
per ton delivered ... 65 10 0
Red Lead, Dry (package extra) ... per ton 33 0 0
Best Linseed Oil Putty ..... per cwt. 0 13 6
Size. XD quality ..... firkin. 0 3 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.
15 oz. fourths ... 2½d.	32 oz. fourths	7½d.
15 " thirds ... 3d.	32 " thirds	9½d.
21 " fourths ... 3½d.	Obscured Sheet, 15 oz.	3½d.
21 " thirds ... 4½d.	" " 21 oz.	4½d.
26 " fourths ... 4½d.	Fluted, 15 oz. 7d., 21 oz.	9½d.
26 " thirds ... 7½d.	Rm'lled, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES. Per ft.

¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS. Per foot s. d.

Clear sheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. not exceeding 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide.....	2 6

VARNISHES, &c.

		Per Gallon. £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Opal Carriage	ditto	1 4 0
Best ditto	ditto	1 12 0
Floor Varnish	Inside	0 16 0
Fine Pale Paper	ditto	0 18 6
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 0
Hard Drying Oak	ditto	0 16 0
Fine Hard Drying Oak	ditto	0 19 6
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 12 6
Best ditto	ditto	1 2 6
Best Japan Gold Size		0 12 0
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 0
Berlin Black		0 14 0
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebene		0 9 0
Quiness Black Enamel		0 7 0

A New Metalwork Catalogue.

Messrs. G. A. Harvey & Co. (London), Ltd., have issued their revised catalogue, No. 525, which they are issuing to the trade from Greenwich Metal Works, Woolwich-road, S.E.7. In this publication, which is of handy pocket size, are contained details and illustrations of saleable patterns of "Harco" products, metalwork of every description, drawn, pressed or perforated. Every constructor should have a copy.

Daylight by Night.

Some idea of the extent to which gas is used as a street illuminant may be gained from an attractive publication which the British Commercial Gas Association has issued, commemorative of the Illumination Congress. A large number of full-plate photographs of important London and other thoroughfares are given, and also four water-colour plates by William Monk, R.E. Copies, price 10s. 6d. (first limited edition), are obtainable from 28, Grosvenor-gardens, S.W.

NEW BUILDINGS IN SCOTLAND

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Tuesday evening.*

Glasgow.—IMPROVEMENTS.—The Parliamentary Bills Committee of Glasgow Corporation has approved the draft of a Provisional Order in which power is to be asked to borrow an additional £850,000 for municipal purposes. The greater portion of the money, £500,000, is required by the Transport Department, whose schemes include the erection of a large garage at Knightswood. Of the balance, the Water Department seeks £250,000, mainly for the duplication of the mains carrying the water from Loch Katrine to Milngavie. The Parks Department seek the remaining £100,000 for the laying out of additional parks, etc.

Glasgow.—SCHOOL.—Plans for a new Catholic school for Springburn have been passed by the Dean of Guild. The school will be known as St. Aloysius' elementary school. Other linings granted were: Corporation of Glasgow, Health Department—school clinic in Crail-street; Corporation Education Department—temporary addition to school, Bishop-street.

Leven.—HOUSING.—The Leven Town Council has received an intimation from the Board of Health to proceed with a larger housing scheme. The present plan shows that the Council contemplates erecting 84 houses, and the Board recommend them to proceed with the erection of 180.

Loanhead.—EXTENSIONS.—The Education Committee of Midlothian C.C. has approved of a scheme for the extension of the Loanhead Senior School, at an estimated cost of £17,600.

PATENTS

APPLICATIONS PUBLISHED.

357,603.—Dr. S. S. Sadtler: Road-building materials.

357,675.—J. M. de Boer: Painting-apparatus.

357,693.—N. E. Snow: Expansion joints for roadways, pavings and structures.

357,759.—J. Bowen: Draught-excluders for doors.

357,838.—C. H. Barton, and B. Shear: Slabs for buildings.

357,888.—Tredegar Iron and Coal Co., Ltd., and J. M. Reynolds: Construction of arched structures.

357,927.—Keramag Keramische Werke Akt.-Ges.: Method of producing large-sized ceramic plates.

357,928.—Felten and Guilleaume Carlswerk Akt.-Ges.: Method and means for anchoring the cable ends of suspension bridges.

Note.—Period for opposition expires December 7, 1931.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'† Bricklayers'† Plasterers'.†
Aberdeen	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Alexandria	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Arbroath	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Ayrshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Bathgate	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2 1/3
Berwickshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/7	††1/2½
Broughty Ferry	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Clackmannanshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Dumbartonshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dumfries	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Dumfriesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Dundee	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunoon	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
East Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Edinburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Forfarshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Fort William	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/2
Galashiels	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Glasgow	1/7	1/7	1/7	1/8½	1/7	1/7	1/7	1/2½
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½
Hawick	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Helensburgh	1/7	1/7	1/7	1/8½	1/7	1/7	1/7	‡1/2½ †1/2½
Inverness	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	10d.–1/2
Inverurie	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Kilmarnock	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kincardineshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Kinross-shire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkwall	1/5	1/5	1/5	1/6	1/5	1/5	1/7	1/–
Lanarkshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Midlothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/3
Peebleshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Perth	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Perthshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Peterhead	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Renfrewshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Rothesay	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Roxburghshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
St. Andrews	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Selkirkshire	1/6	1/6	1/6	1/7	1/7	1/6	1/7	1/1
Stirling	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Stirlingshire, West	1/6	1/6	1/6	1/6	1/6	1/6	1/7	1/1
Stornoway	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
West Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 852.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	,,	1	0

CONCRETOR.

Fort and cement concrete in foundation 1 to 6	per yard cube	27	0
Add if in underpinning in short lengths	,, ,,	6	0
Add if in floors 6 in. thick	,, ,,	2	6
Add if in beams	,, ,,	3	0
Add if aggregate 1 : 2 : 4	,, ,,	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,,	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	,,	7	10	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	,, ,,	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork:—				
Fair external in half brick rings	,, ,,	0	0	10
Axed in stocks	,, ,,	0	1	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	,,	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarte -inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,,	1	0

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	,, ,,	22	0
Bath stone and all labour fixed	,, ,,	10	6
Beer stone and all labour fixed	,, ,,	15	0
Portland stone fixed	,, ,,	20	0
Chilmark stone fixed complete	,, ,,	17	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	,,	80	9
Do. 24 in. × 12 in. Do. Do.	,,	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	4	3
Do. joists	,, ,,	4	9
Do. roofs, floors and partitions	,, ,,	5	3
Do. trusses	,,	7	9

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-
Flat centering for concrete floor, including struts or hangers	,,				50 0
Do. to beams	per ft. sup.				0 9
Centre for arches	,,				1 6
Gutter boards and bearers	,,				1 0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.	—	42/6	50/-	57/6
Do. tongued and grooved	,,	—	47/-	56/-	64/-
Do. matchings	,,	44/-	49/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	,, ,,	2	1
Add for fitting and fixing	,, ,,	0	3
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	,,	3	9

DOORS

		1¼"	1½"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	,,	2/4	2/6	2/9
Two-panel moulded both sides	,,	2/6	2/9	2/11
Four-panel Do. Do.	,,	2/9	2/11	3/2

CARPENTER AND JOINER—continued

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	,,	1/4	1/6	1/9
Add if cross-tongued		2d.	2d.	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/3	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail average, 3 in. × 3 in.	,, ,,	6	0
Add if ramped	,, ,,	12	0
Add if wreathed	,, ,,	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	10/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	3
Plain compound girders	,,	18	0
Do. stanchions	,,	20	9
In roofwork	,,	26	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	,,	1/6	1/9	2/3	2/9
Rain-water pipes with ears	,,	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	,,	1/6	1/10	2/9	3/3
Do. nozzles for inlets	,,	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	40	0
Do. Do. in flats	,,	30	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	6
Soldered seam	,, ,,	1	3
Copper nailing	,, ,,	0	3

		½"	¾"	1"	1¼"	2"	4"
Drawn lead waste	per ft. run	1/1	1/7	1/10	3/-	3/6	—
Do. service	,,	1/6	2/-	2/5	3/6	—	—
Do. soil	,,	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	3/-	6/6
Soldered stop ends	,,	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	,,	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	,,	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	,,	—	—	—	12/7	17/6	—
Bib cocks and joints	,,	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	,,	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	3
Do. Do. Sirapite	,, ,,	2	6
Do. Do. Keen's	,, ,,	3	6
Add saw lathing	,, ,,	1	7
Add metal lathing	,, ,,	2	6
(Not including hangers or runners, etc. for suspended ceilings.)			
Portland cement screed	,, ,,	2	2
Do. plain face	,, ,,	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	3

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	7½
26-oz. Do.	,, ,,	0	10
Obscured sheet	,, ,,	1	1
¼-in. rolled plate	,, ,,	0	9
¼-in. rough rolled or cast plate	,, ,,	0	10
¾-in. wired cast plate	,, ,,	1	3

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	,, ,,	0	7
Plain painting, 1 coat	,, ,,	0	9
Do. 2 coats	,, ,,	1	2
Do. 3 coats	,, ,,	1	9
Do. 4 coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per foot sup.	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office*.

Alexandra.—Reconstruction and extensions to Alexandra public school, for the Lanarkshire C.C. Mr. John Stewart, architect, Education Offices, Motherwell :—

Digger, brick and mason works—
*R. Paterson & Sons, Ltd., Milton-street, Airdrie £4,949 9 4
Carpentry and ironmongery works, etc.—
*Duncan McGill, 10, Newbold-street, Coatbridge 2,162 19 4
Slater and roughcast work—
*W. Thom & Co., Brookhill, Airdrie 569 18 3
Plumber work—
*David Kirk & Co., Ltd., 6, Bank-street, Coatbridge 615 0 0
Tile works—
*Craven, Dunhill & Co., Ltd., Glasgow 166 17 3
Asphalt work—
*W. G. Walker & Sons, Ltd., Cuthbertson-street, Glasgow 144 17 10
Steel casements—
*Fred Braby & Co., Ltd., Pietershill-road, Glasgow 423 12 4

Bangor (Ireland).—Extension work at the old pier, for the T.C. :—
*F. B. McKee & Co., Ltd., Belfast... £8,547

Barnsley.—Alterations to business premises in Doncaster-road. Mr. J. R. Wilkinson, architect, 15, Regent-street :—
*Wm. Johnson & Sons, Ltd., Park-street, Wombwell £238

Benfleet.—Erection of Benfleet church hall. Mr. A. G. Millns, architect, High-street, Canvey Island :—

C. J. Manning, Stratford, E. ...	£1,738	0	0
John Wilson, Ltd., Thorpe Bay	1,540	0	0
A. T. Castle & Sons, S. Benfleet	1,540	0	0
C. H. Talmage, Southend-on-Sea	1,498	8	4
G. Chappell, S. Benfleet	1,465	0	0
J. Atkinson, Southend-on-Sea ...	1,419	0	0
F. Fisk, Canvey Island	1,371	18	2
Buckley, Son & Co., Ltd., Rainham	1,360	0	0
*Iverson & Morgan, Benfleet ...	1,264	0	0
W. Swires, Leigh-on-Sea	1,175	0	0

Beverley.—Alterations and additions to Brandesburton Hall, for the East Riding and York Joint Board for the Mentally Defective, County Hall. County Architect, County Hall :—
*F. W. Plaxton, Ltd., Scarborough.

Bilston.—Shop premises in Church-street, for Messrs. Amies & Clark. Mr. F. D. Marsden, architect, 11-12, New-road, Willenhall :—
Main contractors—*Perks & Could, Bilston.
Steelwork—*Jesse Tildesley & Co., Darlaston

Birkenhead.—Two additional form rooms and a corridor, at the Girl's High School at Grosvenor-place, for the Governors :—
*J. A. Milestone & Son, Wallasey.

Birkenhead.—Alterations and improvements at the "Queen's Arms" hotel, Storeton-road, for Messrs. Threlfall's Brewery Co., Ltd., 468, Borough-road. Mr. B. Waterhouse, F.M.S.A., Architects' Department, Messrs. Threlfall's Brewery Co., Ltd., Cook-street, Salford :—
*Coward & Davis, Birkenhead.

Blackwood.—New primary school, for the Lanarkshire C.C. Mr. John Stewart, architect, Education Offices, Motherwell :—
Digger, brick and mason works, etc.—
*J. C. Burns & Co., 200, Quarry street, Hamilton £3,602 1 7
Carpentry and joinery works—
*G Wilson (Stenhouse), Ltd., Kirk-street, Stenhouse 1,867 0 9½
Slater and roughcast works—
*A. J. Bannerman & Sons, Mid-Lanark 697 12 1
Plaster and cement works—
*W. Bannatyne, Ltd., 7, John-street, Hamilton 705 15 0
Steel casements—
*Fred Braby & Co., Ltd., Pietershill-street, Glasgow 400 10 2
Concrete work—
*J. C. Burns & Co., 200, Quarry-street, Hamilton.
Wall tiles—
*Youden & Sons, Ltd., West-Regent-street, Glasgow 225 9 4
Asphalt work—
*The Scottish Speedwell Co., Ltd., Crownpoint-road, Glasgow 150 10 7

Cardiff.—New offices, mess-rooms, stores, etc., at Canton, for the G.W.R. Chief Engineer, Paddington Station, W.2 :—
*E. C. Jordan & Sons, Harrow-road, Newport (Mon.).

Chryston.—R.C. school at Muirhead for Chryston district, for the Lanarkshire C.C. Mr. John Stewart, architect, Education Offices, Motherwell :—
Digger, brick and mason works, etc.—
*Miller & Ferguson, Orliston-street, Motherwell £4,165 12 7
Joinery and ironmongery works, etc.—
*J. & J. Chalmers, Haddow-street, Hamilton 2,297 15 2
Iron railings, etc.—
*W. Bain & Co., Ltd., Lochrin Ironworks, Coatbridge 362 18 6
Glazier work—
*A. S. Wright Co., 12, Dorset-street, Glasgow 129 19 2
Plumber work, etc.—
*Hugh Golder, 60, Bank-street, Coatbridge 878 8 6
Slater and roughcast work—
*M. Thorn & Co., 74, Bank-street, Coatbridge 992 10 2
Plaster and cement works—
*J. H. Weir, 13, Elidonnan-street, Coatbridge 877 19 3
Steel windows—
*Fred Braby & Co., Ltd., Pietershill-road, Glasgow 509 14 9
Tile work—
*Craven, Dunnell & Co., Ltd., Salop 319 9 6
Asphalt work—
*Scottish Speedwell Co., Ltd., Crownpoint-road, Glasgow 182 14 4

Coleshill.—Ambulance and fire brigade station in Sumner-road, for the Meriden R.D.C. Mr. H. Pickering, engineer :—
*A. Hemming, Birmingham.

Derry.—Lecture room, waiting-room and garage, for the Infirmary Committee :—
*S. Orr, Spencer-road £804 9 3

Donegal.—Repairs to Lifford Courthouse, for the C.C. :—

P. McCallion, Derry	£876
J. McBride, Derry	735
D. McGrenra, Letterkenny	700
*G. Lyndsay, Drumbone, Castlefin	630

(Engineer's estimate: £550.)

Durham.—Tenders accepted by the C.C. :—J. Barrow, Jarrow, at £248 and £249 (alterations to the Relief Offices in Albert-road and Wear-street, Jarrow-on-Tyne); Watson & McGregor, Swalwell, £186 (additions and alterations to the "Hermitage").

Every modern builder uses "HENDERSON" Door Gear because—it is easy to understand, order and erect. Can be seen at work in every town & is fully GUARANTEED.
P.C. HENDERSON LIMITED
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PRIVATE BRANCH EXCHANGE

Ealing.—Extensions to premises of Messrs. John Sanders, Ltd., The Broadway. Messrs. Hall-Jones & Dewhirst, architects, Ealing :—
General contractors—*A. & B. Hanson, Ltd., Southall.
Steelwork—*Redpath, Brown & Co., Ltd.
Shopfitting—*Gorford & Son, Ltd.

Edinburgh.—Installation of electric lighting and power in 112 houses and two shops at Niddrie Mains housing area; installation of electric lighting in 84 houses at Niddrie Mains housing area; installation of electric lighting and power in 46 houses and two shops at Niddrie Mains housing area; for the T.C. Mr. A. Grierson, Town Clerk :—
112 houses and two shops—‡Laing & Kerr, 178, Morningside-road.
46 houses and two shops—‡A. J. Shand & Co., 47, Frederick-street.
84 houses—‡A. J. Shand & Co., Ltd., 47, Frederick-street.

Fort William.—66 houses in Alma-road Plantation site, for the T.C. Mr. Andrew Forrester, A.F.A.S., Burgh Architect, Engineer and Surveyor. Quantities by Mr. Geo. MacRitchie, Fort William :—

Brick—
*Geo. Stewart, Blantyre £10,858 4 11
Joiner—
*Wm. London, Cleland 5,866 14 4
Plumber—
*Thos. Alston, Hamilton 2,489 1 11
Slater—
*Matthew Thom & Co., Ltd., Airdrie 2,420 13 6
Plaster—
*Andrew Park & Sons, Strathaven 2,702 13 3
Painter—
*Charles Marshall, Glasgow ... 420 14 6
Electrician—
*D. Henderson, Glasgow 336 17 9

Gillingham.—Premises in Oxford-road. Mr. F. B. Hooper, architect, 24, Duncan-road :—
*A. H. Horne, Glen Century-road, Rainham.

Glasgow.—Reconstruction and extension to Commercial Bank, St. Enochs-square, for the Banking Co., Ltd. Mr. James MacCallum, architect, 14, George-square, Edinburgh :—
*Grays Ferro-Concrete Co., Ltd., 109, Douglas-street, Glasgow.

Gorleston.—Alterations and additions to the "Gables" hotel, for Mrs. Etheridge. Messrs. Buckingham & Berry, F.S.I., F.R.I.B.A., architects and surveyors, 43a, Prince of Wales-road, Norwich :—

R. H. Carter & Sons, Yarmouth	£2,223	0	0
W. S. Lusher, Norwich	2,149	10	0
R. Chaston, Gorleston	2,139	0	0
A. Vincent & Sons, Bergh Apton	2,100	0	0
H. Bullen & Sons, Cromer	1,995	0	0
J. Balls & Sons, Yarmouth ...	1,958	0	0
B. G. Beech, Yarmouth	1,919	0	0
*H. A. Holmes & Sons, Yarmouth	1,847	18	6

Great Ouseburn.—25,100 yds. of cast-iron water mains, pumping station and covered reservoir, for the R.D.C. Messrs. Silcock & Simpson, engineers, 26, Victoria-street, Westminster, S.W.1 :—
*Squires & Sons, Ltd., Selby.

Guildford.—Congregational schools, for the Trustees. Mr. H. Kelsall Armitage, architect, 130, Haverstock-hill, Belsize Park, London, N.W.3. Quantities by Mr. T. Sumner Smith, F.S.I., Clifton Lodge, The Crescent, Victoria-park, Manchester :—
*S. Warboys & Sons, Potters Bar.

Halifax.—Painting of Piece Hall and Victoria Cattle Market, for the C.B. Mr. A. C. Tipple, Borough Engineer, Crossley-street :—
Piece Hall—*J. H. Ramsden, Glen View, Halifax.
Victoria Cattle Market—*J. B. Flint, Eckington, Sheffield.

Hamilton.—New R.C. school at Cadzow, Hamilton, for the Lanarkshire C.C. Mr. John Stewart, architect, Education Offices, Motherwell :—
Digger and brick works, etc.—
*H. B. Kerr, Cairns, Hamilton ... £4,738 17 11
Carpentry and ironmongery works, etc.—
*Wallace & Young, Portland-street, Hamilton 2,454 11 3½
Glazier work—
*J. Kemp, 17, Duke-street, Hamilton 340 12 8
Slater and roughcast work—
*Park & Son, Cadzow-street, Strathaven 832 10 10
Asphalt work—
*W. G. Walter & Sons, Ltd., Cuthbertson-street, Glasgow 415 0 7
Plumber work, etc.—
*McCulloch & Griffen, Rose street, Glasgow 714 15 8
Plaster and cement works—
*W. Bannatyne & Sons, Ltd., 7, John-street, Hamilton ..... 1,038 § 11
Steel casement windows—
*Fred Braby & Co., Ltd., Pietershill-road, Glasgow 699 10 9
Tile work—
*Galbraith & Winton, Ltd., 121, Douglas-street, Glasgow 350 0 2

Hemel Hempstead.—Alterations to the infirmary lavatories at Hempstead House, for the Herts C.C. Mr. P. W. Prevett, architect, The Rowans, Bovingdon:—

†H. G. Gibbins & Sons, Hemel Hempstead £122

Hornchurch.—Repairs to houses of the Council at Harold Wood, Abbs Cross-road, Priors Park, Princes-park, Trustons-gardens, Longfield-avenue, Lower Richmond-street, Osborne-road, for the U.D.C. Mr. F. Alderson, surveyor:—

Repairs to coppers, waste-water preventers, pedestal pans, locks, water taps—*E. A. Smith, 15, Longfield-avenue, Romford.
Repairs to Inter-ovens—*Silcocks Bros., 157, Brentwood-road, Romford.
Repairs to chestnut fencing—*C. H. Pearce, 34, Priors-park, Hornchurch.
Papering and distempering—*F. Kirkman, 19, Wayside-avenue, Hornchurch.

Huddersfield.—Rebuilding the "Oxford" hotel, Kirkgate, for Messrs. William Stone's Brewery, Ltd., Cannon Brewery, Sheffield:—

*S. Johnson & Sons (Mirfield), Ltd., Mirfield.

Kidsgrove.—Elementary school for 120 scholars, adjoining Church of St. John the Evangelist, in The Avenue, for the Rev. J. Y. Murray, P.P., The Presbytery. Mr. F. C. Crimes, architect, Market-street:—

*Finney & Broadhurst, Stoke-on-Trent.
(Estimated Cost, £4,000.)

Kingsbridge.—22 non-parlour houses, fencing, sewers, etc., on the Wallingford housing site, for the U.D.C. Mr. A. H. E. Gellender, surveyor:—

P. Wolkins & Son, Torquay ...	£10,640 0 0
W. Morgan, Thurlestone	10,539 2 0
Torquay Building Co., Torquay	8,620 0 0
Phillips, Berry & Co., Kingsbridge	8,590 16 8
*J. C. Scoble, Kingsbridge	8,399 10 0

Lancashire.—For (*a*) widening Ainspool Bridge, (*b*) culvert work at Lees New-road, (*c*) repairing Udale Bridge, (*d*) temporary bridge at Dalton, for the C.C. Mr. P. Schofield, County Engineer and Surveyor, Preston:—

(*a*) *L. Fairclough, Ltd., Chorley.
(*b*) *Tate & Gordon, Ltd., Manchester.
(*c*) *B. Birch & Sons.
(*d*) *T. F. Butler, Ltd., Dalton.

Lancaster.—Bus garage in Tarnham-street, for the T.C. Mr. F. Hill, Borough Surveyor:—

*Direct Labour

Langport.—8 houses on the Churchway site at Curry Rivel, for the R.D.C.:—

*H. W. & P. Davis £2,398

Leeds.—137 lin. yds. of retaining wall in Sheepscar-street, for the T.C. Mr. J. E. Acfield, City Engineer:—

*S. Flockton, St. Agnes Mount Works, Stoney Rock-lane, Leeds £1,018 19 3

Leeds.—Garage in New York-road. Messrs. Bain & Johnson, A.R.I.B.A., architects, 38, Albion-street:—

*S. MacFarlane, Ltd., Leeds.

Leeds.—Buildings in North-street, for Messrs. Yewdall's. Mr. J. Brodie, A.R.I.B.A., architect, 98, Church-lane, Pudsey.

*Pickard & Co., Leeds.

Leeds.—Extensions to the No. 2 Clothing Factory in Roseville-road, for Messrs. Heatons (Leeds), Ltd., clothiers. Messrs. A. & F. Mosley, Ltd., architects, Wormald-row:—

*W. H. Hylton.

Leeds.—Alterations and additions to the "Queen Hotel" in Roundhay-road, for Messrs. John Smith's Tadcaster Brewery Co., Ltd. Mr. B. Wilson, architect, High-street, Tadcaster:—

*T. Roper & Son.

Leeds.—Garage, workshops and showrooms at New York-road and Regent-street, for Messrs. Tate. Messrs. Bain & Johnson, architects, Albion-street:—

Reinforced concrete work—*S. McFarlane & Co., Ltd.
Brickwork—*S. Flockton.

Leix.—Repairs to the Abbeyleix Courthouse, for the C.C.:—

P. H. Crennan, Abbeyleix	£350
J. Conroy, Main-street, Portlaoghise ...	275
*John Fitzpatrick, Coote-street, Portlaoghise	265

(County Surveyor's estimate: £292.)

Littleborough.—Extensions to the school buildings for the Trustees of Hollingworth School. Mr. A. Travis, L.R.I.B.A., architect, Union Bank-chambers, King-street, Rochdale:—

*J. Fielding, Milnrow, near Rochdale.

Liverpool.—Additions to the factory in Hartley-avenue, Aintree, for Messrs. W. P. Hartley, Ltd. Mr. F. W. Nicholson, F.R.I.B.A., architect, 2, Dewey-avenue, Aintree:—

Builders—*J. Henshaw & Sons, Liverpool.
Steelwork.—*J. Booth & Sons, Bolton.

Liverpool.—Junior and senior schools at Utting-avenue, Norris Green, for the Catholic Authorities of St. Teresa's Parish (Rev. F. John Ahearne). Mr. Anthony Ellis, L.R.I.B.A., architect, The Temple, 24, Dale-street. Quantity Surveyor, Mr. E. H. Garner, 24a, The Temple, Dale-street:—

*C. J. Doyle, Liverpool.

Llansamlet.—Providing and fixing low-pressure hot water heating at the Tabor Chapel. Mr. D. T. Thomas, "Glasfryn," Bethel-road, Llansamlet, Swansea:—

*J. C. Hitt & Sons, Bridgend, Glam.

¶London.—The following works contracts have been placed by the War Office during the week ending November 12:—

Canterbury—Artificers' work—H. Goodsell, Maidstone.
Catterick Camp — additional accommodation for R.A.O.C. personnel and additional education rooms—G. Dougill & Sons, Darlington.
Catterick Camp—heating installation in R.A.O.D. workshops—Steel & Co., Ltd., Sunderland.
Exeter, Topsham Barracks—annexes to barrack blocks—F. J. Stanbury, Plymouth.
Gosport, periodical services — John Hunt, Ltd., Gosport.
Hilsea—additions and alterations to commanding officer's quarters—Cortis & Hankin, Cosham.
Isle of Wight—periodical services—F. Holdsworth, Ltd., Shipley.
Portland, Weymouth and Dorchester—periodical services—R. Skevington & Sons, Derby.
Portsmouth and Hilsea—periodical services—Arundel (Contractors), Ltd., Bradford.
Shorncliffe, Risborough Barracks — erection of barrack blocks—Ellis Bros., New Romney.
Strensall—erection of barrack blocks—Jaram & Sons, Scarborough.

¶London.—Tenders accepted for the week ending November 14 by H.M.O.W.:—

Dollis Hill Research Station—steel sashes, etc.—Crittall Manufacturing Co., 210, High Holborn.
Dorking Post Office and Telephone Exchange—heating and hot water service—R. H. and J. Pearson, Ltd., 145, High-street, W.11.
Collingwood Telephone Exchange—adaptations—Pollard & Skerritt, Suffolk-road, Ipswich.
Post offices — box sorting fittings — Fielding & Bottomley, South-parade, Halifax.

¶London.—Tenders accepted by H.M. Air Ministry for week ending November 7:—

North Weald—artificer's work—S. Cronin & Sons, Warley, Brentwood.
Cranwell—married officers' quarters—W. Wright & Sons, Ltd., Lincoln.
Boscombe Down—married officers' quarters and meteorological office—Carkeek & Sons, Ltd., Redruth.
Sealand—timber store—Wright, Anderson & Co., Ltd., Gateshead-on-Tyne.

London.—Repair of the steps at the western end of St. Martin's Church with stone, for the Westminster City Council:—

*Alexander Thomson & Co. (London), Ltd.

London.—Enlargement of the babies' room at the College-lane school, Hackney, for the L.C.C.:—

*G. E. Wallis & Sons.

London.—Alterations to Deptford pumping station, for the L.C.C.:—

John Cochrane & Sons, Ltd. ...	£20,073 4 1
Howard Farrow, Ltd.	18,639 18 0
Kinnear, Moodie & Co.	18,610 16 6
R. Robinson & Co (Contractors), Ltd.	17,992 1 0
Balfour, Beatty & Co., Ltd. ...	17,887 11 9
Leslie & Co., Ltd.	17,826 14 6
Mitchell Bros., Sons & Co., Ltd.	17,226 19 6
John Mowlem & Co., Ltd.	17,089 0 0
*D. G. Somerville & Co., Ltd., 35, Grosvenor-place, S.W.1 ...	13,345 9 1

(Chief Engineer's estimate: £19,187 2s.)

London.—Repairs to the river wall at the cleansing depot at Lett's Wharf, for the City Corporation:—

Tilbury Contracting & Dredging Co., Ltd.	£140 0
*G. Tate & Son	110 15

London.—Repairs to roofs at the cleansing depot at Lett's Wharf, for the City Corporation:—

John Macquire	£114 3 6
W. S. Barton & Co.	113 10 10
F. J. Howard	105 2 0
*F. H. Badman	86 1 0

London.—New warehouse at 115, Lever-st., for Mr. R. Gunner. Messrs. J. A. Bowden, Son & Partners, architects, 3, Ashburn-gardens, Kensington, S.W.7:—

J. Simpson & Sons	£13,283
Holliday & Greenwood, Ltd.	12,977
Quennell	12,965
W. M. Brand	12,928
J. Jarvis & Sons	12,888
L. & W. Whitehead, Ltd.	12,813
Wm. Shurmur & Sons, Ltd.	12,744
Patman & Fotheringham	12,421
Hammond & Barr, Ltd.	11,872

Lynmouth.—Pavilion at Lynmouth, for the Lynton U.D.C. Mr. A. F. Gibbs, surveyor, Town Hall, Lynton:—

Braby & Co., Ltd.	£850
David Powell & Co., Ltd., London ...	727
Gardiner, Sons & Co., Bristol	716
A. & J. Main & Co., Ltd., London	685
*Sanders & Forster, Ltd., Plymouth ...	590

Nantymoel (Glam.).—Remodelling of the junior mixed Council school, for the Glamorgan E.C. Mr. D. Pugh Jones, F.R.I.B.A., F.S.I., County Architect:—

*P. Gaylard & Sons, Bridgend £4,986 15

Nantymoel (Glam.).—Additions and executing alterations to the infants' Council school, Nantymoel, for the Glamorgan E.C. Mr. D. Pugh Jones, F.R.I.B.A., F.S.I., County Architect:—

*P. Gaylard & Sons, Bridgend £2,592 2

Newcastle-on-Tyne.—Alterations to the "Glendale Hotel." Mr. Walter J. Smith, L.R.I.B.A., architect, St. Thomas-street:—

*Ralph Bowey, Raby-street.

Nottingham.—Dock, warehouse and other works in connection therewith, at Trent-lane wharf, for Trent Navigation Committee. Mr. P. B. Woodger, Engineers' Department, Eastcroft, London-road:—

†Wellerman Bros., Sheffield.

Oldham.—Dairy, for the Oldham Industrial Co-operative Society, Ltd., Foundry-street. Architects' Department, Co-operative Wholesale Society, Ltd., Balloon-street, Manchester:—

*J. Hartley, Oldham.
(Estimated cost, £16,000 to £17,000.)

Oxford.—38 non-parlour houses on the Abingdon-road Glebe site to rehouse displaced tenants, for the T.C.:—

*A. Drew, Golden-valley, Cheltenham £16,536

Percy Main (Northumberland).—Church hall on the Balkwell estate. Mr. R. Jordan, architect, 73, Howard-street, North Shields:—

*W. Moore, Cartington-road, North Shields.

Pontyclun.—Offices and improvements to playground at the Miskin Council school, Pontyclun, for the Glamorgan E.C. Mr. D. Pugh Jones, F.R.I.B.A., F.S.I., County Architect:—

*P. Gaylard & Sons, Bridgend £725

Prestwich.—Boundary walls on the Council's Polefield housing estate, for the U.D.C. Mr. H. T. Ainsworth, surveyor:—

*J. Berry, Ltd., Chapel-street, Heywood.

Royston.—Alterations to the Town Hall for the Council:—

*Gimson & Co., Royston £2,160

St. Helens.—Parish hall in Blackrock-road, for Rev. R. W. Finnesey, P.P., St. Mary's Church, Blackrock. Mr. W. Ellis, F.M.S.A., architect, Union Bank-buildings, Hardshaw-street:—

*N. Pimblett, Ashton-in-Makerfield
(Estimated cost, £1,700.)

Sandown (Isle of Wight).—Mass piers and walls around the clear-water basin at the water works pumping station, for the U.D.C. Mr. N. D. Best, clerk:—

A. G. Osenton, Hayling Island ...	£251 13 6
Wm. Brown (Sandown), Ltd., Sandown	192 10 0
*Lester Construction Co., Ltd., Westminster	184 0 0

Sheffield.—44 non-parlour type houses on the Manor estate (building scheme No. 20), for the T.C. Mr. W. Geo. Davies, F.R.I.B.A., City Architect:—

28 houses—
*Maxfield Bros., 1, Gainsford-road, Sheffield £10,775 0 0

16 houses—
*W. Malthouse, Ltd., Rosedale-road, Sheffield 5,515 1 3

Sheffield.—252 non-parlour type houses on the Shiregreen estate; part 3 (building scheme No. 2), for the T.C. Mr. W. Geo. Davies, F.R.I.B.A., City Architect:—

*W. J. Simms, Sons & Cooke, Ltd., Nottingham £93,472

Slough.—Central Hall, at the corner of High-street and The Grove, for the Wesleyan authorities. Mr. A. Brocklehurst, F.R.I.B.A., architect, Martin's Bank-chambers, 10, Norfolk-street, Manchester:—

*A. & B. Hanson, Ltd., Southall.

Southend-on-Sea.—Offices over the garages now being constructed at the London-road generating station, for the C.B.:—

*J. C. Flaxman, Ltd., Southend-on-Sea £1,779

Spalding.—New market, first station and public conveniences, for the U.D.C. Messrs. Webster & Trower, F. and L.R.I.B.A., architects, 1a and 2a, Station-street:—

†Val. G. Green, Spalding £20,346
(In lieu of statement made in our issue of November 6.)

Stoke-on-Trent.—Pithead baths at Norton Colliery. Mr. J. H. Forshaw, architect to Miners' Welfare Committee, Mines Department, Dean Stanley-street, Millbank, London, S.W.1.:—

*Geo. Walker & Slater, Ltd. Derby.

Stourbridge.—Private residences in Meredin-avenue:—

*E. D. R. Tooby, Cathcart-road, Stourbridge.

Thrapston.—Eight houses at Brigstock and six at Ringstead, for the R.D.C. Mr. W. A. Lea, architect, 4, Market-hill, Huntingdon:—

Brigstock—

W. Loakes & Son, Thrapston	£3,280
W. Canham, Somersham	3,204
W. Freeman & Son, Oundle	3,108
W. Lewis & Son, Geddington	3,066
Read Bros., Grantham	2,970
A. E. Brown & Co., Ltd., Grantham	2,880

Ringstead—

W. Lewis and Son, Geddington	2,340
W. Canham, Somersham	2,328
W. Thompson & Sons, Ltd., Irthlingborough	2,316
W. Freeman & Son, Oundle	2,298
Read Bros., Grantham	2,207
A. E. Brown & Co., Ltd., Grantham	2,140

Sunderland.—Repairs and alterations to the bottom of the existing plunge bath in High-street West, for the Corporation. Mr. H. Craven, Town Clerk :—

*J. Carter & Sons, Ltd., Deptford-terrace, Sunderland.

Sunderland.—Additional work in regard to the construction of the new deep-water quay, for the T.C. :—

‡Peter Lind & Co., Ltd., London, S.W.1.

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Tipton.—46 three-bedroom non-parlour type houses at Queen's-road, for the U.D.C. Mr. H. N. Woodward, surveyor :—

*Direct Labour £14,000

Tynemouth.—Two blocks of maisonettes in Scorer-street, North Shields, for the C.B. Mr. John L. Beckett, A.M.I.C.E., Borough Surveyor. Quantities by the Borough Surveyor :—

*T. W. Grey, Front-street, Tynemouth.

Wakefield.—88 A3 type houses on the Darnley housing estate, for the Corporation. Mr. Percy Morriss, architect :—

*G. Crook & Sons, Ltd.

Wallsend.—86 gates and over 3,000 yds. of fencing in connection with the erection of 60 houses, for the T.C. :—

*T. B. Pearson & Son, Wallsend.

Warrington.—34 "A3" type houses in Kingsway North, of Manchester-road, for the C.B. Mr. Andrew M. Ker, Borough Engineer and Surveyor :—

*Clough & Gaskell, Ltd., Spring Bank, Wigan.

Warrington.—Alterations to premises in Factory-lane, for Messrs. J. Crosfield & Sons, Bank Quay :—

*Pearson & Knowles, Ltd., Warrington.

Weymouth.—20 houses at Wyke Regis, for the R.D.C. :—

*F. Box, Bournemouth.

Wigan.—Alterations and additions to buildings, for Messrs. J. Lowe, Ltd., Victoria House, Market-place. Messrs. Pennington & Unwin, A.R.I.B.A., architects, Malvern-chambers, Library-street :—

*J. Walkden, Ltd., Wigan.

Woking.—140 houses on the Westfield-road site, for the U.D.C. :—

P. Vaughan John, Port Talbot	£47,124
Wm. Tickner, Lowestoft	46,676
Eadie & Co. Wolverhampton	45,836
Road works—	
Franks, Harris Bros., Guildford	£6,591 11 9
Thorogood, Surbiton	5,427 8 3
Northen & Hussey, Fetter-lane, London	5,369 11 5

Worcestershire.—For (1) painting and repairs at Brook-street school, Stourbridge; (2) painting and repairs at Valley-road school, Lye; and (3) heating at Wythall Council school; for the E.C. :—

(1) *A. H. Guest, Ltd., Stourbridge... £1,097
(2) *Bridgewater Bros., Cradley Heath 726
(3) *H. E. Pritchard & Son, Kidderminster 140

Worcestershire.—For (*a*) repairs and decorations at the Bromgrove institution, and (*b*) electric lighting at the Martley institution, for the P.A.C. :—

(*a*) *J. & A. Brazier, Ltd., Bromsgrove...£435
(*b*) *J. Ward (Worcester), Ltd., Worcester 173

Yiewsley and Drayton.—152 cottages, for the U.D.C. : —

*Rawlings Bros., Southall £55,594

York.—Dairy, in Haxby-road, for the York Equitable Industrial Society, Ltd. Architects' Department, Co-operative Wholesale Society, Ltd., 1, Balloon-street, Manchester :—

*W. Birch & Sons, Ltd., York.

York.—Modern dairy at Haxby-road, for the York Equitable Co-operative Society, Ltd :—

Builders—*W. Birch & Sons, Ltd., York.
Plumbing and heating—*Exors. W. W. Taylor, York.
Painting—*T. M. Oxtoby & Sons, York.
Steelwork—*Leonard Cooper (Leeds), Yorkshire.
Slating—*W. West, Ltd., York.
Joinery—*The York Equitable Co-operative Society, Ltd., York.
(Total cost about £20,000.)

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